

**Volume 1: An investigation of the  
relationship between disruptive behaviour  
and depressive symptoms in young people  
who attend Pupil Referral Units**

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**Abstract**

In recent years, there have been calls for an increase in our understanding of the mental health needs of young people who have been excluded from school and therefore attend Pupil Referral Units (PRUs) (Centre for Social Justice, 2011; Mental Health Foundation, 2002; National Children's Bureau, 2011). Evidence suggests that disruptive behaviour (DB) and depressive symptoms (DS) are closely linked. Previous research suggests that DB is a risk factor for DS, and vice-versa. Due to the likelihood of high levels of DB in young people excluded from school, the aim of this thesis was to examine the relationship between DB and DS in a PRU sample. Results showed a significant correlation between DB and DS; this was stronger than the correlation between DB and anxiety. Furthermore, the presence of negative self-concept increased the influence of DB on DS and of DS on DB. It seems that there is a mutual relationship between DS and DB, in part explained by the presence of a negative self-concept. Surprisingly, no association was established between DB, DS and academic attainment. The findings have implications for research and professional practice. Efforts should be made to increase awareness of affective difficulties, such as DS, in disruptive pupils.

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**Contents**

<b>Chapter 1: General introduction</b>	<b>1</b>
Mental health in children and young people	2
An overview of depression in young people	4
Diagnostic criteria	5
Prevalence of depression in children and adolescents	6
The aetiology of depression in children and adolescents	7
Associated difficulties	8
Treatment and intervention	9
An overview of disruptive behaviour difficulties in children and adolescents	11
Classification and conceptualisation	11
Prevalence	12
Aetiology	13
Associated difficulties	14
Intervention	14
Research context: Pupil referral units	15
Structure of Volume 1	17
 <b>Chapter 2: Literature review</b>	 <b>19</b>
An association between depression and disruptive behaviour	20
Theoretical explanations of the relationship between depressive symptoms and disruptive behaviour	28
‘At risk’ populations	30

The present study	35
Research questions	37
<b>Chapter: 3: Methodology</b>	<b>39</b>
Participants	40
PRU characteristics	40
Participant characteristics	42
Design	43
Measures	44
Depressive symptoms	44
Disruptive behaviour	45
Symptoms of anxiety	46
Self-concept	47
Academic attainment	48
School-oriented motivation	49
Procedure, study logistics and timeline	50
Ethical considerations	52
<b>Chapter 4: Results</b>	<b>55</b>
Data preparation	56
Severity levels of depressive symptoms, anxiety, disruptive behaviour and self-concept	56
Levels of school motivation and academic performance	59
Gender differences	60

Correlation between all measured variables	60
Does self-concept mediate the relationship between disruptive behaviour and depressive symptoms?	62
Impact BYIDB on BYID	62
Impact of BYID on BYIDB	66
The relationship between depressive symptoms, disruptive behaviour and academic attainment	68
Academic discrepancy scores	68
Raw NC scores, controlling for age	69
<b>Chapter 5: Discussion</b>	<b>70</b>
Summary of thesis findings	71
Overview of aims and objectives	71
Key findings	72
Methodological Considerations	76
Implications	81
Future directions	89
General Conclusion	92
<b>References</b>	<b>93</b>
<b>Appendices</b>	<b>109</b>

**List of Tables**

<b>Table 1:</b> Participating PRUs' characteristics	41
<b>Table 2:</b> Sample characteristics	42
<b>Table 3:</b> Percentage (and number) of participants falling within the cut-off points as defined by Beck <i>et al.</i> (2005) for anxiety, depressive symptoms, and disruptive behaviour.	57
<b>Table 4:</b> Percentage (and number) of participants falling within the cut-off points as defined by Beck <i>et al.</i> (2005) for self-concept.	57
<b>Table 5:</b> Means and standard deviations for NCDE and NCDM	59
<b>Table 6:</b> Pearson correlation between all measured variables	61
<b>Table 7:</b> Regression analysis examining the mediating role of BYISC in the relationship between BYIDB and BYID	65
<b>Table 8:</b> Partial correlations between the study variables, with age entered as a covariate	69



**List of figures**

**Figure 1:** Graphical representation of correlation between disruptive behaviour, depressive symptoms, and self concept 63

**Figure 2:** Graphical representation of the mediating role of self concept on the relationship between disruptive behaviour and depressive symptoms 66

**List of abbreviations**

ANOVA = Analysis of Variance

APA = American Psychiatric Association

BPS = British Psychological Society

BYI = Beck Youth Inventories

BYIA = Beck Youth Inventories Anxiety sub-scale

BYID = Beck Youth Inventories Depression sub-scale

BYIDB = Beck Youth Inventories Disruptive Behaviour sub-scale

BYISC = Beck Youth Inventories Self-Concept sub-scale

CD = Conduct Disorder

DCSF = Department for Children, Schools and Families

DfE = Department for Education

DfEE = Department for Education and Employment

DfES = Department for Education and Skills

DB = Disruptive Behaviour

DS = Depressive Symptoms

DSM = Diagnostic and Statistical Manual

EP = Educational Psychologist

GCSE = General Certificate of Secondary Education

ISM = Inventory of School Motivation

NC = National Curriculum

NCDE = National Curriculum Discrepancy Score for English

NCDM = National Curriculum Discrepancy Score for mathematics

ODD = Oppositional Defiant Disorder

PRU = Pupil Referral Unit

WHO = World Health Organisation

# **Chapter 1: Introduction**

The introduction focuses on the key aspects of this thesis: depression, disruptive behaviour, and pupil referral units (PRUs). However, first, mental health in young people is introduced, focusing on definitions and conceptualizations of mental health. Second, an overview of depression in children and adolescents is provided. This includes information on symptoms, classification, prevalence, aetiology, associated impairments and intervention. Third, disruptive behaviour is discussed. This includes information on typical behaviours, classification, prevalence, aetiology, associated impairments, and intervention. Next, an introduction to the research context – PRUs – will be given. Finally, an introduction to the structure of the thesis is presented, which includes a summary of the literature review chapter, and the objectives of the empirical component.

### **Mental health in children and young people**

The term ‘Mental Health’ is widely used in Western parlance, however it can be difficult to define, and should not simply be used to refer to the absence of categorical mental health difficulties [Department for Education (DfE), 2013]. The World Health Organisation (WHO; 2001) proposed that mental health is an integral component of health, through which the individual develops his/her cognitive, affective and relational abilities. UK governments past and present [Department for Children, Schools and Families (DCSF), 2008; DfE, 2013] have defined children who are mentally healthy as able to:

“...develop psychologically, emotionally, intellectually and spiritually; initiate, develop and sustain mutually satisfying personal relationships; use and enjoy solitude; become aware of

others and empathise with them; play and learn; develop a sense of right and wrong; and resolve problems and setbacks and learn from them.” (DCFS, 2008: p.8).

Children and young people who are mentally healthy achieve more at school, are better integrated with their peer group, and are more engaged with school and community life (DCFS, 2008). Similarly, those who have difficulties with mental health are more likely to experience difficulties in the aforementioned areas (DCFS, 2008).

Mental health is best conceptualised as a continuum of human experience, both for young people and adults (Dogra *et al.* 2009). At one end of the spectrum is complete mental health and wellbeing; at the other is severe mental ‘disorder’. Individuals typically meet diagnostic criteria for mental health disorders due to the number, severity, and pervasiveness of symptoms, in addition to significant impairments in daily functioning. Furthermore these difficulties should present in multiple contexts. However, individuals who do not meet the above criteria may still be experiencing some symptoms and distress, and as such may still require support from healthcare and education professionals (McGorry, 2011). Indeed, Angold *et al.* (1999) suggest that those who lie below diagnostic thresholds can be as psychosocially impaired as their diagnosed counterparts, with difficulties in social, academic, and occupational functioning. However, the notion of a mental health continuum has been criticised elsewhere, with some suggesting that embracing a continuum model may lead to increased numbers of psychiatric diagnoses (Macleod, 2010).

Mental health difficulties can be grouped into a number of categories, including: disruptive behaviour disorders; emotional disorders; hyperkinetic disorders; attachment disorders; substance misuse; eating disorders; and psychotic disorders [American Psychiatric Association (APA), 2000; DCSF, 2008; World Health Organisation, 1992]. While these

categories have roots in medical models of disease and disorder, the more recent conceptualisation of a continuum of human experience represents an attempt to reduce stigma and increase awareness of mental health (Carr, 2006; Dogra, *et al.*, 2009). Indeed, Carr (2006) suggests that the categorical classification of mental health ‘disorders’ is open to criticism, as evidence shows that “psychological difficulties are not distributed within the population as disease-like categorical entities” (Carr, 2006: p.89).

Within education, the presenting indicators of mental health difficulties are often referred to as behavioural, emotional and social difficulties (BESD) (Daniels *et al.*, 1999; DCSF, 2008). The purpose of the BESD term is not to diagnose young people with mental health disorders; more, it is to provide a description of a particular grouping of needs that require intervention and support. However, as ‘BESD’ is non-normative, it can be casually and arbitrarily used as a label for a wide range of behaviours (Daniels *et al.*, 1999). Whichever term is used to describe the presenting difficulty, the wellbeing of the young person is likely to be compromised, and as such intervention is vital.

Two seemingly distinct clusters of behaviours/experiences that could be considered to fall under the BESD and ‘mental health difficulty’ umbrella are *depression* and *disruptive behaviour*. Volume 1 of this thesis explores the link between disruptive behaviour and symptoms of depression in a sample of young people excluded from school. The following section will provide overviews of depression and disruptive behaviour.

### **An overview of depression in young people**

The term ‘depression’ is commonly used in the English language and tends to carry various meanings. In clinical terms, the term ‘depression’ refers to a cluster of symptoms and

behaviours that underlie changes in mood, thinking and activity [American Psychiatric Association (APA), 2000]. Common indicators of depression include feelings of sadness and/or irritability, self-criticism, and reduction in daily activity. High levels of these experiences are likely to cause significant impairment in daily social and/or personal functioning (NICE Guideline; National Collaborating Centre for Mental Health, 2005). Until the 1970s the view amongst practitioners and researchers was that depression did not exist in children and adolescents (Cicchetti & Toth, 1998; Fergusson & Woodward, 2002); however, more recent research suggests that this is not the case (Cicchetti & Toth, 1998).

### *Diagnostic criteria*

Within the 'depression' label there are many possible diagnoses. In the UK, a taxonomic tool commonly used to diagnose depression in children and adolescents is the *International Statistical Classification of Diseases and Related Health Problems, tenth edition* [ICD-10; World Health Organisation (WHO), 1992], which identifies mild, moderate, and severe depressive episodes.

To qualify for a diagnosis of a depressive episode, the individual must be experiencing a certain number of symptoms for at least two weeks. There must be at least two out of the three most typical symptoms of depression (depressed mood, increased tiredness, loss of interest and enjoyment), alongside a number of the following additional symptoms: (a) reduced concentration and attention; (b) reduced self-esteem and self-confidence; (c) ideas of guilt and unworthiness; (d) bleak and pessimistic views of the future; (e) ideas or acts of self-harm or suicide; (f) disturbed sleep; and (g) diminished appetite. For mild depression, the individual should be experiencing two of the additional symptoms; for moderate depression



the number of additional symptoms rises to three or four; and for severe depression the number rises to five or more. A diagnosis should only be made when the symptoms appear to be causing personal distress and are associated with impairments in everyday functioning (such as social interaction and ability to continue with school work as normal).

When diagnosing depression in children and young people, professionals need to be aware that the clinical presentation of symptoms can vary according to age (National Collaborating Centre for Mental Health, 2005). Younger children are more likely to report physical complaints (such as headaches and abdominal pains), whereas adolescents are more likely to report feelings of low mood and have a higher rate of suicidal thoughts and self-blame (National Collaborating Centre for Mental Health, 2005). One must also be aware that some characteristics of 'normal' child and adolescent behaviour do not necessarily qualify as symptoms of depression: adolescents can be moody and unpredictable, and children can be tearful; on their own, these behaviours cannot be interpreted as clinical characteristics of depression.

*Prevalence of depression in children and adolescents.*

The growing awareness of depression in young people has resulted in an increasing number of studies examining its prevalence in young cohorts. A large-scale study carried out by Green *et al.* (2004) – on behalf of the Department of Health and the Scottish Health Executive – investigated the mental health of 5-16 year-olds in the UK. They found that 0.2% of boys and girls aged 0-5 met diagnostic criteria for a depressive episode, with the prevalence increasing to 1.0% of boys and 1.9% of girls for the 11-15 age group. In another study, 6% of young people were found to have met diagnostic criteria for depression at least

once by age 15 (Hankin *et al.*, 1998), whilst elsewhere, 7% of New Zealand 15 year-olds were shown to qualify for a diagnosis (Fergusson *et al.*, 1993).

The variation in prevalence rates could be due to a number of different factors. First, the studies were carried out in different countries, and in different years – therefore the taxonomic tool used to identify cases of depression are likely to vary between studies. Furthermore, studies based *only* on self-report measures of symptoms do not to not take account of impairment or distress. Canino *et al.* (2004) found that prevalence rates measuring symptom count alongside impairment are approximately half that of prevalence rates where there is no evidence of impairment. As such it should be emphasised that prevalence rates taken from community screening show the proportion of high levels of symptoms; in order to gain an accurate picture of the true prevalence rate (or likelihood of diagnostic cases), measures of impairment and personal distress should also be taken.

#### *The aetiology of depression in children and adolescents*

It is unlikely that a single factor can explain depression; the disorder has a complex multifactorial causal structure (Garber, 2006), with both biological and environmental factors being shown to play an important role in its onset. Risk factors for depression include parental depression, sub-clinical depressive symptoms, negative cognitions (e.g. negative self-concept), neuobiological dysregulation (for example high levels of cortisol), difficulties with coping, interpersonal difficulties, and stressful life events (Garber, 2006; National Collaborating Centre for Mental Health, 2005). It has been suggested that most depressive episodes in young people are triggered by stressful life events such as parents' marital problems, domestic violence, physical abuse, sexual abuse, bullying, exam failure, and social isolation (National Collaborating Centre for Mental Health, 2005). However, it does not hold

that *all* young people who experience these stressful life events will go on to develop depression. The *stress-vulnerability* of schizophrenia (Nuechterlein & Dawson, 1984) has been applied to depressive episodes (National Collaborating Centre for Mental Health, 2005), where it is postulated that certain individuals will be more vulnerable to depression than others. Here, those with a biological and / or psychological vulnerability (see risk factors mentioned above) will more likely experience a depressive episode when exposed to ‘depressogenic’ events or circumstances.

### *Associated difficulties*

An examination of the diagnostic criteria for depression suggests that it has a debilitating effect on the individual’s everyday life. Indeed, for a diagnosis to be given, there must be evidence of impaired daily functioning (WHO, 1992). The effects of depression can manifest in all aspects of a young person’s life, with problems at home and school commonplace.

A plethora of research exists highlighting an association between depression and poor school performance. For example, several large-scale studies of children and adolescents have found that high levels of self-reported depression are associated with low school grades (Frojd *et al.*, 2008; Shahar *et al.*, 2006). A possible explanation for depressed individuals’ impaired academic performance was proposed by Hartlage *et al.* (1993), who suggested that when attempting to complete tasks, the depressed individual’s cognitive resources are directed not toward the task, but to task-irrelevant and depressive thoughts. As such, fewer attentional resources are available for the task in hand, resulting in impaired performance. An evaluation of the characteristics of depression reveals a cluster of behaviours that would likely pose significant problems for the individual in a school setting. Impaired concentration, low self-esteem, low confidence, pessimistic views of the future, and loss of

interest are all symptoms of depression that could have a negative impact at school, by diminishing one's initiative to learn and disturbing cognitive processing (Frojd *et al.*, 2008).

Furthermore, research shows that compared to nonsymptomatic peers, children with depression are more likely to show impaired functioning in relationships with peers and family members (Dietz *et al.*, 2008; Kovacs, 1997; Puig-Antich *et al.*, 1985; Rockhill *et al.*, 2007; Rudolph *et al.*, 1994). Depressed children's impaired relationships and social functioning could lead to others' negative perceptions of the individual (Peterson *et al.*, 1985), thus leading to social isolation, which could in-turn exacerbate the individuals' depressive symptoms, thus creating a vicious cycle. Indeed, the familial nature of depression suggests that the home life of depressed children is characterised by a negative, depressive social 'ecosystem', beset by the effects of both child and parental depression (Shiner & Marmorstein, 1998; Stein *et al.*, 2000).

Also, longitudinal research has shown that at adult follow-up, those who develop depression in childhood and adolescence are more likely to experience problems with depression and anxiety, suicidal behaviours, nicotine addiction, academic and occupational difficulties, early parenthood, conduct problems, and substance abuse (Fergusson & Woodward, 2002; Weissman *et al.*, 1999).

Finally, a wealth of literature has demonstrated an association between depression and disruptive behaviour in young people; this will be discussed in depth in *Chapter 2: Literature Review*.

### *Treatment and intervention*

Those individuals who are diagnosed with depression will be referred to the Child and Adolescent Mental Health Service (CAMHS) for support and treatment. Here, Cognitive-

Behavioural Therapy (CBT) and other psychological therapies are recommended as the first-line treatment (National Collaborating Centre for Mental Health, 2005); however, the treatment and management of depression is a costly business for the taxpayer, and doubts have been raised as to whether specialist CAMHS clinicians can meet this requirement (National Collaborating Centre for Mental Health, 2005; Stallard *et al.*, 2007).

In the UK, it has been estimated that the national cost of depression in children and young people is £2,900million per year, and for adults is £9,000million per year (National Collaborating Centre for Mental Health, 2005). Research suggests that young people with depression will continue to experience mental health problems as adults, with potentially damaging consequences for the individual, the family, and the community (Fergusson & Woodward, 2002; WHO, 2001; Weissman *et al.*, 1999), and as such are likely to continue to require the support of health services in adulthood, thus creating a further monetary and social burden (WHO, 2001). As mentioned above, psychological therapies (such as CBT) are recommended as the first-line interventions, however it has been suggested that CAMHS clinicians struggle to meet demand (Stallard *et al.*, 2007). In a survey of 540 UK CAMHS professionals, CBT was found to be the dominant approach of only one in five clinicians, implying a need to develop training in this area (Stallard *et al.*, 2007). Murray and Cartwright-Hatton (2006) also suggest that there is a shortfall in appropriately trained staff to deliver these therapies. The current UK Coalition Government are attempting to address this by rolling out the Improving Access to Psychological Therapies (IAPT) programme to people of all ages, including children and young people (DoH, 2011).

In light of the above, early intervention and indeed prevention seems to be the key to diminishing the burden of young peoples' depression, may prove to be more cost-effective,

and most importantly, may reduce the distress experienced by those who suffer from the disorder (Gladstone & Beardslee, 2009; McGorry, 2011).

### **An overview of disruptive behaviour difficulties in children and adolescents**

Children and adolescents who display persistent disruptive behaviour are often classified under the BESD label, and present a major challenge for educators (Ruttledge & Petrides, 2011). Within the classroom, disruptive behaviour has been defined as any behaviour that seems to be problematic, inappropriate or disturbing (Galloway & Rogers, 1994). However, in clinical terms, ‘disruptive behaviour’ has been used to describe a collection of developmental and behavioural disorders. In some circles, disruptive behaviour disorders/difficulties are referred to as a class of mental health difficulty (Dogra, *et al.*, 2009).

#### *Classification and conceptualisation*

Both the American-based Diagnostic and Statistical Manual (DSM-IV) (APA, 2000) and European-based ICD-10 (WHO, 1992) recognise that disruptive behaviour disorders form a group of psychological problems including conduct disorder (CD) and oppositional defiant disorder (ODD) (APA, 2000; Loy *et al.*, 2012; WHO, 1992).

The American Psychiatric Association (APA, 2000) describe CD as a repetitive and persistent pattern of behaviour that violates age-appropriate societal rules/norms and violates the rights of others. Over a period of 12 months, the individual must show at least three of the following behaviours: aggression towards people or animals, theft, destruction of property, and serious violation of rules. As is the case for depression, these behaviours must be

associated with significant impairment in daily functioning in the social, academic, and occupational domains (Carr, 2006)

To receive a diagnosis of ODD, the young person must exhibit at least four of the following behaviours over the past 6 months: often loses temper, is often angry, often actively defies or refuses to comply with adult requests, often argues with adults, often deliberately annoys people, often blames others for mistakes made, is often easily annoyed by others, and is often spiteful and vindictive (APA, 2000). Again, additional daily impairment (as specified above) must be evident (APA, 2000).

As mentioned above, the continuum model of mental health suggests that these behaviours are not just confined to those who are diagnosed; regardless of diagnosis, they can be associated with impairment and can present a challenge to parents and educators (Ruttledge & Petrides, 2011). Tremblay (2010) suggests that there are a number of sub-types of disruptive behaviour that transcend the diagnostic categories of CD and ODD, and exist on a continuum. The sub-types are as follows: *physical aggression*, *opposition-defiance*, *rule breaking*, and *theft-vandalism*.

### *Prevalence*

In their study of the mental health of 5-16 year-olds in the UK, Green *et al.* (2004) investigated the prevalence of disruptive behaviour disorders. The prevalence rate comprised of ODD and CD diagnoses. They found that 6.9% of boys and 2.8% of girls aged 0-5 met diagnostic criteria for a disruptive behaviour disorder, with the prevalence increasing to 8.1% of boys and 5.1% of girls for the 11-15 age group. As Angold *et al.* (1999) suggest, it is likely that there are many more young people exhibiting disruptive behaviour, when sub-clinical behaviours and clinical referral biases are taken into account.

Elsewhere, it has been suggested that prevalence statistics of disruptive behaviour are rooted in medical models of disorder, and may simply be a reflection of societal and contextual norms (Macleod, 2010). For example, what is viewed as ‘normal’ or acceptable in one context (or classroom) may lead to a referral to educational support services or medical professionals in another (Macleod, 2010). As such it is likely that the prevalence statistics reported above may reflect (at least, in part) the perceptions of parents, teachers and other professionals, rather than the ‘true’ underlying prevalence.

### *Aetiology*

Within the disruptive behaviour literature, psychosocial theories of aetiology are the most highly developed (Werry, 1997). Research suggests that disruptive behaviour difficulties are likely to arise as a result of a number of interacting factors at the individual, familial, and environmental level (Bassarath, 2001). It is generally assumed that parenting difficulties and a social ecology that facilitates disruptive behaviour are the main causes (Werry, 1997). Factors that most strongly predict disruptive behaviour difficulties in adolescence include prior antisocial behaviour, having parents with a history of conduct problems, peers who also exhibit disruptive behaviour, early substance use (particularly before the age of 12), and being male (Bassarath, 2001). Therefore, although certain ‘within-child’ factors (such as substance abuse, prior antisocial behaviour, and being male) are important, the context within which the young person develops plays a significant role in development of disruptive behaviour difficulties.



*Associated difficulties*

Young people who display high levels of disruptive behaviour are at risk for a number of additional difficulties and adverse long-term outcomes. Research has shown that young people who exhibit high levels of disruptive behaviour are highly likely to experience attention deficit hyperactivity disorder (ADHD), substance misuse, and depression (Boylan *et al.*, 2007; Werry, 1997). Research also suggests that extreme disruptive behaviour is linked to academic underachievement, language difficulties, and exclusion from school (Clegg *et al.*, 2009; Mental Health Foundation, 2002; Werry, 1997).

In the long-term, disruptive behaviour difficulties present a significant risk for future social exclusion, unemployment, crime, and poor interpersonal relationships in adulthood (National Institute for Health and Clinical Excellence, 2013). Many children with disruptive behaviour difficulties are likely to receive additional diagnoses as adults, including substance misuse, mania, schizophrenia, and depression (National Institute for Health and Clinical Excellence, 2013).

*Intervention*

Werry (1997) suggests that there is no field of child and adolescent psychopathology in which the public offers such frequent and strong views as disruptive behaviour disorders; furthermore many of these views are impractical, simplistic, costly and ineffective (Werry, 1997). However, in the academic literature, a number of key principles for effective treatment have been agreed, including: early intervention is paramount; intervention should cover as much of the child's day as possible; parents/carers should be involved; intervention should be consistent across settings; intervention should not only focus on behavioural control; and,

intervention should take account of likely additional difficulties such as ADHD and depression (Werry, 1997).

In the UK, disruptive behaviour disorders account for the majority of referrals to child and adolescent mental health services (Carr, 2006; National Institute for Health and Clinical Excellence, 2013). Carr (2006) suggests that disruptive behaviour disorders are the most costly reason for referral to specialist services due to their prevalence, unresponsiveness to intervention and negative long-term outcomes. The literature suggests that child-based psychotherapies for disruptive behaviour disorders are grossly ineffective, and as such family-oriented interventions must be considered as well (Carr, 2006). Therefore, national clinical guidelines (National Institute for Health and Clinical Excellence, 2013) recommend that disruptive behaviour difficulties be managed through a range of different interventions targeted at the individual *and* family. Individual interventions include cognitive-behavioural therapy, social skills training, and play therapy; family interventions include behavioural parent training and cognitive-based family therapy (Carr, 2006; National Institute for Health and Clinical Excellence, 2013).

### **Research context: Pupil Referral Units**

The United Nations Convention on the Rights of the Child (United Nations, 1989) stated that all children have the right to an education. Furthermore, legislation such as the Special Educational Needs and Disability Act (DfES, 2001) strengthened the right for all children with additional difficulties to attend a mainstream school. However, some students will be unable to meet the demands of their mainstream school, and some schools will be unable to meet the demands of their pupils. In these cases, pupils are often transferred to a Pupil

Referral Unit (PRU). Although the design and purpose of PRUs varies across the UK (Reid (2007), their common goal is to provide short-term educational placements for pupils, until a new mainstream placement can be found, or they are deemed ready to return to their previous mainstream school. They cater for pupils with a wide range of needs, including school non-attenders, teenage mothers, and those who have been excluded from school due to behaviour difficulties. In this thesis, the research will focus on PRUs that cater for children who have been excluded from school because their behaviour was deemed to be unmanageable.

A child or young person who has been excluded from school is likely to have been exhibiting a high level of uncooperative, disruptive, and aggressive behaviour, to such an extent that the school can no longer manage his/her behaviour. In the UK, pupils can be subject to either permanent or fixed-term exclusion. Recent figures from 2009/10 show that an estimated 5,740 pupils were subject to permanent exclusions, with over 330,000 given fixed-term exclusions (DfE, 2010). The majority of permanent and fixed-term exclusions are due to persistent disruptive behaviour (DfE, 2010). The 1996 Education Act dictated that Local Authorities should provide alternative education for excluded pupils (DfEE, 1996), which tends to take the form of a PRU.

The number of pupils being educated in PRUs has reportedly doubled in the past decade, however overall exclusion figures are much lower than in the 1990s (Centre for Social Justice, 2011). It has been suggested that an increase in part-time timetables, managed moves, and dual registrations (in mainstream schools and PRUs) account for this apparent disparity (Centre for Social Justice, 2011). Official statistics show that in 2011, there were over 14,000 pupils on roll at PRUs in the UK, with most pupils aged between 11 and 15 (DfE, 2011). Eleven thousand of these pupils had Special Educational Needs (SEN), and approximately 1,700 had statements of SEN. In addition, approximately one-third of the PRU

population is eligible for free school meals – a common proxy indicator of low socio-economic status (DfE, 2011). However, it should be noted that there are at least 9,000 additional pupils who attend PRUs but are not incorporated in the DfE statistics (Centre for Social Justice, 2011): this tends to be because of ‘unofficial’ exclusions, where pupils attend PRUs but remain on roll at their mainstream school (Centre for Social Justice, 2011).

Evidence suggests that young people who attend PRUs (having been excluded from school) have been exposed to severe psychosocial adversity, and have a wide range of needs, alongside persistent disruptive behaviour. For example, the National Children’s Bureau (National Children’s Bureau, 2011) carried out an audit of the needs of 268 pupils who attended PRUs in the UK. Here, PRU staff were asked to give their views on the lives and needs of their pupils. It was found that approximately 50% lived with a lone parent, approximately 20% had experienced domestic violence, 20% had a parent who had a substance misuse problem, and 25% had a parent with a mental health difficulty. Forty percent had mental health difficulties themselves, 25% had been involved in criminal offences, and approximately half had difficulties with social skills (National Children’s Bureau, 2011). Furthermore, pupils who attend PRUs are at greater risk of negative long-term outcomes than their mainstream peers, including not being in education, employment or training (NEET), and experiencing poor mental health (Pirie & Macleod, 2009).

### **Structure of Volume 1**

Volume 1 of this thesis is structured as a series of chapters that follow a logical sequence: a focused literature review, a presentation of the methodological approach, the results of the study, and finally a discussion of the results.

The aim of this Volume is to examine depressive symptoms in a sample of excluded students who attend pupil referral units (PRUs). The following chapter (*Chapter 2: Literature Review*) provides a review of research into the relationship between depression and disruptive behaviour. Research examining their co-occurrence is presented, followed by psychological models that attempt to explain this relationship. Implications for the PRU population are discussed. The central empirical study of this volume aims to investigate whether the findings of the literature can be replicated in a PRU sample. Namely, is there a close association between depression and disruptive behaviour, and if so, how can the relationship be explained?

The discussion summarises the findings from the study in relation to the current literature. Methodological issues, including study limitations, are presented accordingly, along with future research directions. Theoretical and practical implications are also discussed.

## **Chapter 2: Literature review**

Research shows that approximately 10% of young people in Britain meet diagnostic criteria for mental health problems, such as depression and anxiety (Green *et al.*, 2004). These individuals are likely to be experiencing multiple impairments and are at risk of future problems, in particular academic, occupational, and social interaction difficulties (Dietz *et al.*, 2008; Fergusson & Woodward, 2002; Frojd *et al.*, 2008; Katon *et al.*, 2010). Indeed, McGorry (2011) suggests that mental health difficulties present the most significant barrier to healthy development for young people in modern society.

Furthermore, a wealth of research suggests that mental health difficulties – in particular depression – in young people are likely to co-occur with disruptive behaviour (e.g. Kovacs *et al.*, 1988). The following chapter will present a review of the literature examining the link between depression and disruptive behaviour. Implications for Pupil Referral Units (PRUs) will be discussed. The chapter will conclude by introducing the present study.

### **An association between depression and disruptive behaviour**

Given the disparate nature of their defining characteristics, an association between depression and disruptive behaviour in children and young people may seem surprising. Clinically-defined disruptive behaviour disorders, such as conduct disorder (CD) and oppositional defiant disorder (ODD), are characterised by behaviours such as disregard for authority, argumentativeness, fighting, and destruction of property (DSM-IV; American Psychiatric Association, 2000). Depression, on the other hand, is defined by feelings of sadness, self-criticism, reduction in daily activity and feelings of worthlessness (DSM-IV; American Psychiatric Association, 2000). However, a wide body of evidence suggests that these seemingly distinct dimensions are closely linked.

The research presented below includes studies investigating associations between depression and ‘conduct disorder’ (CD), ‘oppositional defiant disorder’ (ODD), ‘conduct problems’, ‘behaviour problems’, ‘disruptive behaviour’, and ‘externalising behaviour difficulties’. Closer inspection of these papers reveals that the varying terms tend to reflect the taxonomic tool with which the behaviour was identified, the particular measure of behaviour used, and whether the researchers were based in the fields of health or education. Nevertheless, all of the above terms are likely to manifest as disruptive behaviour at home and in school. In the present study, the *Disruptive Behaviour* sub-scale of the *Beck Youth Inventories* (Beck *et al.*, 2005) was used to measure this particular construct: Beck *et al.* (2005) suggest that the *disruptive behaviour* sub-scale measures behaviours typically associated with CD and ODD. As such, when the term ‘disruptive behaviour’ (DB) is used in this thesis, it can be considered to pertain to those behaviours associated with CD and ODD, and moreover, those behaviours evident in the classroom and community that are considered to be problematic, inappropriate and presenting a major challenge for educators (Galloway & Rogers, 1994; Rutter & Pickles, 2001).

Studies investigating the association between depression and DB have utilized cross-sectional and longitudinal approaches, employing both community and clinical samples. A number of meta-analyses and literature reviews have presented evidence of the association. In a large meta-analysis of child and adult general population studies, Zoccolillo (1992) found that both depression and anxiety co-occurred with conduct disorders far more than would be expected by chance in children, adolescents, and adults. Similarly, a literature review carried out by Boylan *et al.*, (2007) demonstrated that depression was closely linked with ODD in cross-sectional and longitudinal studies, in both community and clinic samples. Angold and Costello (1993) conducted a meta-analysis of studies using child and adolescent community



samples. The studies reviewed by Angold and Costello reported between 5.8 and 14.7% of young people meeting clinical criteria for disruptive behaviour disorders, and between 1.8 and 8% meeting clinical criteria for depression. Of those who met clinical criteria for depression, between 22.7 and 83.3% met criteria for DB disorders. Of those who met clinical criteria for DB disorders, studies reported comorbidity rates of between 8.5 and 45.4% for depression. Therefore, it could be assumed that the presence of one increases risk for the other.

Explanations for variations in prevalence rates between studies are discussed in Chapter 1:

*Introduction.*

As mentioned in Chapter 1 (*Introduction*) the classic view of mental health difficulties is of a disease-like categorical entity, where the individual either ‘has’ the disorder, or does not (Carr, 2006). A great deal of research into the association between depression and DB has focused on investigating comorbidity in clinical samples: in other words, do depressed young people also meet diagnostic criteria for a disruptive behaviour disorder, and vice versa? A seminal study was carried out by Kovacs *et al.* (1988). They conducted a longitudinal study of 104 young people diagnosed with major depressive disorder, and found that around one-third of the sample also met criteria for a diagnosis of conduct disorder. More recently, as part of a large multinational study, Polier *et al.* (2012) studied the link between ‘internalising’ difficulties and conduct problems, in both community and clinic samples. Internalising difficulties are defined as symptoms or behaviours relating to emotional difficulties such as depression and anxiety (Carr, 2006). The community sample results will be presented below. The clinical sample consisted of 193 young people in Germany (aged between 5-18) who were diagnosed with a DB disorder. Here, internalising difficulties were measured by parent ratings using the child behaviour checklist (Achenbach, 1991). Seventy-eight percent of the

conduct disorder sample had ‘clinically significant’ levels of internalising difficulties; in other words, three quarters of the sample met diagnostic criteria for depression and/or anxiety.

Although studies using clinical samples provide important information regarding co-occurring disorders, one cannot necessarily assume that the findings can be extrapolated to those individuals who are not diagnosed, but perhaps experience similar difficulties. That is, by applying the continuum model of mental health (discussed in Chapter 1: *Introduction*), can one infer that, across the dimension of depressive symptoms, there is a close relationship with DB?

In recent years, a number of studies utilizing large-sample, longitudinal, community-based methodologies have been published, in which the co-occurrence of depressive symptoms (DS) and DB over time has been studied. In a sample of approximately 2,500 adolescents in the USA, Chen and Simons-Morton (2009) asked participants to complete a number of self-report measures at 5 time points, between the ages of 11 and 15. At baseline they observed a correlation coefficient of 0.3 between depressive symptoms (assessed using the depression sub-scale of the Weinberger Adjustment Inventory; Weinberger, 1991) and conduct problems (assessed using 6 items developed by the authors). Furthermore, across all time points in the study, they found that 8.8% of boys and 3.7% of girls experienced high levels of both conduct problems and DS. Across the time-points, high depressive scores increased the risk for conduct problems, and vice-versa.

Reinke *et al.* (2012) studied the long-term relationship across the transition from childhood to adolescence in 361 young people, aged 10-16. DS and DB were assessed using parent-rated measures: the *Externalising* subscale of the Child Behaviour Checklist (Achenbach, 1991) and the Child Depression Inventory (Kovacs, 1992). Although the authors did not report simple correlation coefficients at the various time-points, they showed that

higher levels of DS increased the risk for additional DB problems, and vice-versa.

Furthermore, the development of one difficulty to another over time was demonstrated by the finding that: early DS significantly increased the risk for DS and DB at the final time-point; and, early DB increased risk for later DB and DS.

Another USA-based study was carried out by Kofler *et al.* (2011) who studied a community sample of 3,600 12-17 year-olds. Rather than measuring DB *per se*, they took a measure of 'delinquent behaviour', which seemed to cover more severe, community-based behaviours, rather than classroom disruption: items assessed burglary, selling drugs, attacking others with intent to hurt or kill and being arrested. DS were measured via a self-report of the symptoms of depression according to DSM-IV criteria. It was found that early DS predicted later delinquent behaviour significantly better than early delinquent behaviour predicted later DS. However, it should be noted that, as this study measured severe delinquent behaviours, the results cannot necessarily be applied to less severe 'disruptive behaviours', as would typically be viewed as a 'problem' in the classroom.

Several studies have also studied the link between DB and 'internalising difficulties' in community samples. Although results cannot necessarily be applied to DS *per se*, internalising difficulties comprise, in part, of depressive experiences. Polier *et al.* (2012) investigated the cross-sectional association between conduct problems and internalising difficulties in a community sample of 1,160 8-12 year-olds from London. Here, conduct problems and internalising difficulties were measured by the 'conduct problems' and 'emotional problems' sub-scores of the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001), rated by parents [scores on the emotional problems sub-scale are highly correlated with measures of depressive symptomatology (Goodman, 2001)]. Here, 3.7% of the sample had 'clinically significant' levels of *both* conduct problems and internalising

difficulties. Interestingly, girls with conduct problems were almost twice as likely to have additional internalising difficulties than boys with conduct problems. Polier *et al.* (2012), like Reinke *et al.* (2012) assessed DS using parent-reports. Some researchers suggest that self-report measures of depression and anxiety are more robust than secondary ratings, due to the subjective, internalising nature of the symptoms and experiences (Beck *et al.*, 2005; Berg-Nielsen *et al.*, 2003). As such the findings of Polier *et al.* (2012) and Reinke *et al.* (2012) should be treated with caution.

Another large general population study was recently carried out by Lee and Stone (2012). Here, they examined the relationship between internalising and externalising (i.e. DB) problems in more than 4000 10-13 year-olds in South Korea, over a four-year period. Internalising and externalising problems were measured by parent ratings of the child behaviour checklist (Achenbach, 1991). At each time point (i.e. years 1, 2, 3, and 4), there was a significant correlation between internalising and externalising difficulties. However, it should be noted that the correlation coefficients representing the strength of the association ranged between 0.1 and 0.2, but were flagged as statistically significant. In studies employing large samples, seemingly small effect sizes can be flagged as significant; as such it is important to examine the coefficients to gain a true indication of the magnitude of the statistical effect (Cohen, 1988). In this case, the relatively small correlation coefficients suggest that the association between internalising and externalising difficulties was relatively weak. This could be for a number of reasons. Perhaps parent ratings of subjective internalising experiences are not as robust a method of examining internalising problems than seeking the views of the young people themselves (Beck *et al.*, 2005; Berg-Nielsen *et al.*, 2003). In addition, perhaps measuring 'internalising difficulties' lacks specificity; results could have been different had the authors examined depressive and anxious symptoms

separately. Also, evidence suggests that internalising difficulties become more apparent in mid-adolescence (Carr, 2006): perhaps a sample age range of 10-13 is too young to observe greater levels of internalising problems.

Lee and Stone (2012) also introduced a third variable – self-concept. Self-concept has been defined as an individual's core beliefs and knowledge about his/her personal attributes and qualities (Mann *et al.*, 2004). One aspect of self-concept is *self-esteem*, which is the evaluative and affective dimension of self-concept (Mann *et al.*, 2004). It has been suggested that low self-concept is a significant risk factor for the development of adolescent mental health difficulties, with strong associations with both DS and DB (Lee & Stone, 2012; Mann *et al.*, 2004). Lee and Stone (2012) found that, over time, internalising and externalising difficulties lead to difficulties in the other. However, this effect was mediated by self-concept: at each time-point, when the effect of self-concept was statistically controlled, the relationship was rendered non-significant. Low self-concept was found to exacerbate the development of internalising and externalising difficulties over time, which in-turn undermined the participants' self-concept. The mediational role of self-concept did not differ between males and females.

The important role of mediating factors has been studied elsewhere. For example, Timmermans *et al.* (2010) studied the impact of stressful life events (such as parental divorce or death of a family member) on the bi-directional relationship between internalising difficulties and DB. They carried out a longitudinal study with 420 young people in the Netherlands. Assessments were carried out at ages 5, 10 and 18 using the child behaviour checklist (Achenbach, 1991) and Life Events Questionnaire (Berden *et al.* 1990). It was found that, from early childhood, DB led to increases in internalising difficulties over time, with stressful life events mediating the relationship in adolescents. In other words, the presence of

stressful life events greatly increased the risk of internalising problems in adolescents who exhibited DB. The effect was also found in the opposite direction, from internalising difficulties to DB. Furthermore, there was no significant difference in this effect between males and females.

Although a wealth of literature examines the link between DS and DB, some research has shown that DB is also closely linked to anxiety and the broader dimension of internalising difficulties (Cunningham & Ollendick, 2010; Lee & Stone, 2012; Polier *et al.*, 2012). As such it could be argued that the established association between DB and DS is in part explained by a wider link between DB and more general affective distress. However, Wolff and Ollendick (2006) suggest that although the dimensions of depression and anxiety share many common features, there are clear distinctions in their presentation, and as such it is important to delineate their respective links with DB. Furthermore, a number of studies have found that individuals with conduct disorder and individuals with ‘clinically significant’ levels of DB are more likely to experience greater difficulties with depression than anxiety (Polier, *et al.*, 2012). For example, in a US-based community study of 1420 9-16 year-olds, Rowe *et al.* (2005) found that, of the participants who met diagnostic criteria for ODD, 17.1% had clinically significant levels of depressive symptoms, and 7% had clinically significant levels of anxiety. Also in the USA, McGee *et al.* (1990) found that 19% of 15-year olds who met diagnostic criteria for a DB disorder also met diagnostic criteria for depression; 9.5% met diagnostic criteria for anxiety. Therefore, although research does suggest a link between anxiety and DB, perhaps this association is weaker than that between depression and DB.

**Theoretical explanations of the relationship between depressive symptoms and disruptive behaviour**

The research presented above shows that individuals who are diagnosed with depression are likely to also experience difficulties with DB, and that individuals with DB disorders are likely to also experience difficulties with DS. Furthermore, a link has also been established between DS and DB in general population samples. However, this summation of the evidence taken alone does not give information on developmental trajectories: i.e. how, over time, do DS and DB become closely associated? Increasing our understanding of the developmental course of co-occurring DS and DB will help inform the nature of intervention and prevention programmes, and indeed may impact on how disruptive youth are constructed in schools (Wolff & Ollendick, 2006). Theoretical work has been carried out over the past 20 years with the aim of answering this particular question. Mostly, research has focused on testing the notion that one dimension plays a causal role in the development of the other (Lee & Stone, 2012).

Wolff and Ollendick (2006) presented the key arguments for each theoretical perspective. First, the *Failure* model proposes that DB precedes DS. It is suggested that DB can progress to DS because of a cascade of ‘developmental failures’ experienced by those who express DB (Capaldi, 1992). These ‘developmental failures’ are defined as follows: high levels of DB are associated with peer rejection, impaired parent-child interaction, and academic difficulties (Capaldi, 1992); these negative interpersonal outcomes are thought to decrease the availability of social support networks, thus leading to DS (Wolff & Ollendick, 2006). This model is built on evidence suggesting that the age of DB onset precedes the age of onset for DS (Wolff & Ollendick, 2006), and that early conduct problems act as a risk factor for the later development of mental health difficulties (Wolff & Ollendick, 2006).

Wolff and Ollendick (2006) suggest that the social consequences of DB increase with age. As the individual enters mid-adolescence, interpersonal relationships become more important, and therefore the consequences of DB (such as increased peer conflict, poor family relationships and academic underperformance) have a greater personal impact. A key study here was carried out by Capaldi (1992), who found that pupils with high levels of DB at Grade 6 (i.e. aged 11-12) reported a significantly higher depressed mood at grade 8 (i.e. aged 13-14). However, the effect did not persist into late adolescence when prior depressed mood was statistically controlled, raising the idea that this model could be limited to early adolescence (Capaldi & Stoolmiller, 1999; Wolff & Ollendick, 2006). However it could be argued that the later onset of depression is simply a developmental effect, rather than a consequence of conduct problems. Cases of depression are often seen more in adolescence than in younger children because adolescents are better able to recognise and reflect on their feelings: young children tend to report physical complaints (such as headaches and abdominal pains), whereas adolescents tend to report feelings of low mood and have a higher rate of suicidal thoughts and self-blame (National Collaborating Centre for Mental Health, 2005).

Another explanation for the apparently subsequent onset of DS is that DB is more likely than depression to be recognised and reported by parents and teachers due to its externalising, imposing effect on the immediate ecosystem (Wolff & Ollendick, 2006). Therefore, referrals to clinics and support services are likely to be for DB, rather than depression. Indeed, referrals for DB problems constitute the significant majority of CAMHS referrals (Carr, 2006; National Institute for Health and Clinical Excellence, 2013).

A second theory is known as the *Acting Out* model, which posits that DS lead to DB. It is suggested that some symptoms of depression, in particular *irritability*, may be expressed through heightened aggression and rule breaking (Wolff & Ollendick, 2006). This can lead to



interpersonal conflict, oppositionality, and subsequently disruptive “*acting out*” behaviour (Kofler *et al.*, 2011). Support for this model comes from research showing that early DS predict later DB (Kofler *et al.*, 2011). A key study driving this perspective is the aforementioned work of Kovacs *et al.* (1988), who found that, in their sample, depression was mostly diagnosed before disruptive behaviour disorders. However, as the participants in this study were recruited due to an existing diagnosis of depression, it is likely that additional disruptive behaviour would have naturally been identified at a later date (Wolff & Ollendick, 2006). Another seminal study was carried out by Puig-Antich (1982), who looked at treatment response in adolescents who had comorbid depression and conduct disorder. It was found that, in 85% of cases, DB and depression was remitted through the use of antidepressants.

Due to the mixed evidence for both the *Failure* and *Acting Out* models, some researchers have concluded that, in general, each is a risk factor for the development of the other (Reinke *et al.* 2012). Lee and Stone (2012) conclude that it is not clear which is the absolute antecedent; therefore, DS and DB can be considered as antecedents and consequences of each other. This has important implications for intervention and prevention, to be discussed later (see Chapter 5: *Discussion*).

### **‘At risk’ populations**

Rather than focusing on either clinic or community samples, some studies have investigated the link between DS (and other mental health difficulties) and DB in certain ‘at risk’ populations. As has been shown above, extreme DB presents as a risk factor for the development of additional mental health difficulties, such as depression – if there are populations that are likely to exhibit high levels of DB, then increasing our understanding of

their mental health needs will be vital when considering intervention and support. One such population that has received research interest is incarcerated youth.

Ulzen and Hamilton (1998) stated that there is a high likelihood of comorbidity between DB disorders and other mental health difficulties in incarcerated youth samples, but deemed that there is a 'striking' paucity in relevant research. As such they examined the incidence of psychiatric comorbidity within a sample of 98 incarcerated 13-17 year-olds. Incidence of psychiatric disorder was assessed in this Canadian sample by diagnostic interview, and was compared to a community comparison group. They found significantly higher rates of psychiatric disorder in the incarcerated sample. Moreover, 82% of the participants met criteria for both externalising and internalising disorders. Of the participants who met criteria for ODD, almost 60% met the criteria for depression.

A high incidence of depressive symptoms in this population was also found more recently by Gretton and Clift (2011). Here, they found that one-third of their Canadian sample of 205 12-20 year-olds reported DS 'of clinical significance'. Approximately 80% of the sample met criteria for CD. However, it should be noted that DS and DB are not the only difficulties identified in samples of incarcerated youth. Large numbers have been found to show clinically significant levels of anxiety, psychosis, autism spectrum disorders, attention deficit hyperactivity disorder, and substance misuse (Gretton & Clift, 2011; Stahlberg *et al.*, 2010; Ulzen & Hamilton, 1998).

Within the UK education system, a population of young people who are likely to be exhibiting high levels of DB, and as such could be at risk for the development of DS, are those who have been excluded from school and subsequently attend pupil referral units (PRUs). The purpose of a PRU is to provide education to children and young people who are unable to attend a mainstream or special school. It should be noted that some PRUs cater for

other groups of young people who cannot attend school for other reasons, such as teenage pregnancy. From hereon in, 'PRUs' shall refer to those units that cater for children who have been excluded from school because their mainstream school has found their behaviour to be unmanageable. More information on PRUs is provided in Chapter 1 (*Introduction*).

Children and young people who attend PRUs are often described as having behavioural, emotional and social difficulties (BESD). BESD is an umbrella term typically used within the sphere of education, and is used to describe a range of difficulties typically associated with mental health problems (DCFS, 2008). A report produced for the Mental Health Foundation (Mental Health Foundation, 2002) suggests that there is a paucity of information on the mental health characteristics of young people who attend PRUs. Despite the likelihood of BESD/mental health difficulty, PRU attendees will likely to have been engaged with the disciplinary pathways in schools prior to exclusion (due to their disruptive behaviour), rather than those for SEN (Mental Health Foundation, 2002). Increasing our understanding of the needs of PRU attendees will be important when considering the nature of support provided for PRUs, and indeed for the mainstream school that is considering enforcing exclusion (Centre for Social Justice, 2011).

Although little is known about the nature of mental health difficulties experienced by young people in PRUs, one could apply the findings of psychological research that focuses on young people with characteristics similar to those who are likely to be excluded from school (Mental Health Foundation, 2002). For example, by applying the reciprocal relationship hypothesis of DS and DB, one could infer that PRU attendees are at risk for the development of DS. Given that the relationship between DB and DS has been demonstrated in both clinical and community samples (Boylan *et al.*, 2007; Kovacs *et al.*, 1988; Polier *et al.*, 2012), it seems highly likely that in settings such as PRUs, pupils will experience difficulties with DS,

regardless of prior clinical diagnoses. Furthermore, stressful life events have been shown to mediate the relationship between DB and DS (Timmermans *et al.*, 2010): it could be argued that the experience of being excluded from school is itself a stressful life event for a young person, and as such the act of being excluded could accelerate the development of DS in these ‘at risk’ young people.

The impact of exclusion on depressed mood was studied by Boulard *et al.* (2012), who carried out a survey of almost 3000 12-18 year olds in Belgium. They found that the three strongest predictors of depression were age, verbal aggression, and feelings of exclusion. These factors exerted a greater influence on depressed mood than other factors including academic achievement, peer relationships, and feelings of safety. Here, feelings of exclusion were measured by four questions assessing whether students feel socially included or excluded in school. Although the authors of this study did not measure school exclusion *per se*, exclusion from school should be considered an example of social exclusion (MacRae *et al.*, 2003).

Using academic search engines such as *Web of Knowledge*, *PsychInfo*, and the *British Education Index*, zero articles were found in academic journals in which mental health difficulties in young people attending PRUs was studied. The search terms “depression”, “depressive symptoms”, “mental health”, “mental health difficulties”, “Pupil Referral Units”, “PRU”, “school exclusion” and “excluded from school” were used interchangeably, but to no avail. However, a public briefing article of relevance has been produced by the National Children’s Bureau charity (National Children’s Bureau, 2011). This project, funded by the Department of Health, found that 44% of 268 young people who attend PRUs experience mental health difficulties. This figure is over four times larger than previous estimates of mental health difficulties in young people in the UK [see Green *et al.* (2004) and Meltzer *et*

*al.* (2000)]. It should be noted however that the audit of need carried out by the National Children's Bureau did not use an existing measure of mental health *per se*; rather, teachers were simply asked to state the difficulties they believed the pupils experienced, using a brief audit form. As such, the construct validity, external validity, and reliability of their measurement tool can be called into question, thus limiting the generalisability of findings and robustness of any implications to be drawn from the study.

It has also been found that young people who have been excluded from school are likely to have a low self-concept. Rendall and Stuart (2005) compared a group of 20 excluded pupils to 20 age, sex, ethnicity, and school-matched controls. It was found that the excluded group had significantly lower ratings of self-esteem: they liked themselves less, were less happy with their lives and were generally less happy with who they were (Rendall & Stuart, 2005). As noted previously, self-esteem is an important component of the self-concept (Mann, *et al.*, 2004). Elsewhere, Mainwaring and Hallam (2010) found that PRU attendees ( $n = 16$ ) were more likely than mainstream controls to have negative views of their 'possible selves' – another important element of self-concept. By applying the work of Lee and Stone (2012), one could assume there to be increased levels of negative self-concept in excluded pupils, which could in-turn increase the risk of concurrent DS. Establishing the role of self-concept will have important implications for intervention (Lee & Stone, 2012).

In addition, the DS-DB literature suggests that pupils who experience these difficulties are likely to be at risk for academic underperformance. As mentioned in Chapter 1 of this thesis, depression is closely linked to academic difficulties such as low grades (Frojd *et al.*, 2008; Shahar *et al.*, 2006) and poor classroom engagement (Hartlage *et al.*, 1993). Also, high levels of DB are linked to academic underachievement, and difficulties with language production and comprehension (Clegg *et al.*, 2009; Mental Health Foundation, 2002; Werry,

1997). However, although studies have found that young people with DS and DB are likely to show poorer academic adjustment compared to those with low DS and DB (Chen & Simons-Morton, 2009), it is unclear whether these negative scholastic outcomes are any more severe than for those with *either* DS *or* DB (Chen & Simons-Morton, 2009). However, despite this lack of clarity, it could be assumed that not only are pupils in PRUs likely to be experiencing difficulties with DS, it is likely that these pupils are would be at risk for additional academic difficulties, which could in-turn have important implications for the practice of professionals. Implications for professional practice will be explored in Chapter 5 (*Discussion*).

### **The present study**

The research reviewed in this chapter shows that: (a) DS and DB are closely linked; (b) young people who exhibit high levels of DB are likely to be at risk for the development of DS; (c) young people with DS are likely to be at risk for the development of DB; (d) several additional variables have been shown to mediate the relationship between DS and DB; and (e) certain populations – such as individuals who attend PRUs – could be at heightened risk for DS. One could infer from the evidence presented in this literature review that it is likely there will be a positive association between DB and DS in young people who attend PRUs, and that these individuals will be experiencing associated academic difficulties. An increase in research into the mental health difficulties experienced by young people in PRUs is needed to help inform the development of effective mental health support in these settings, and indeed in mainstream schools from where the pupils are typically referred.

The aim of the present study was to examine the relationship between DB and DS in a sample of adolescents who attend PRUs. In line with the continuum theory of mental health

referred to in Chapter 1 (*General Introduction*), DS and DB will be conceptualised as dimensions of experience, where behaviours and symptoms exist across populations, and are not categorical entities. Therefore the term *depressive symptoms* (DS) will be used, rather than *depression* (which could be assumed to refer to a diagnostic category). Based on previous research, it was predicted that there would be a positive association between DS and DB, and that this association would be stronger than the association between symptoms of anxiety and DB. However, bivariate analyses will only give indications of the strength of the relationship between two variables (Field, 2000). The literature presented above regarding the theoretical explanations of the relationship between DB and DS suggest that the relationship is neither unilateral nor direct, and therefore cannot simply be explained by bivariate statistics. Some research suggests that DB impacts on DS; other research suggests that DS impacts on DB (Wolff & Ollendick, 2006). Furthermore there are a number of factors that could mediate the relationship, such as interpersonal conflict, negative self-concept, and stressful life events (Lee & Stone, 2012; Wolff & Ollendick, 2006; Timmermans *et al.*, 2010). The findings of one study suggest that negative self-concept mediates the relationship in both directions (Lee & Stone, 2012). Based on the likelihood of high levels of negative self-concept in excluded pupils (Mainwaring & Hallam, 2010; Rendall & Stuart, 2005), the impact of self-concept on the hypothesised relationship was examined. Does self-concept help to explain the mechanism by which DB is related to DS? Using multivariate statistical techniques, it was investigated whether the possible influence of self-concept on the hypothesised relationship is comparable when considering the impact of DB on DS and the impact of DS on DB.

Furthermore, as evidence suggests that increased levels of DS and DB are associated with academic difficulties, their impact on academic attainment was studied. In addition, as

motivation has been shown to be closely associated with both achievement (Gilman & Anderman, 2006; Meece *et al.*, 2006) and DS (Frojd *et al.*, 2008), a measure of school-oriented motivation was taken. The purpose of this was to establish whether the possible influence of DS and DB over achievement could be isolated from the impact of motivation to succeed at school. In other words, does a reduced motivation to succeed account for the influence of DS and DB over academic achievement?

It is hoped that the results will provide important information regarding the mental health needs of young people who attend PRUs and will help identify targets for intervention and support. It is also hoped that the results will help to inform the practice of professionals who work with pupils that present with behaviour difficulties (and are possibly deemed to be at risk of exclusion) in mainstream schools.

The research was carried out in one West Midlands Local Authority. Pupils from four Key Stage 3 and Key Stage 4 PRUs participated, with an age range of 11-15. This age profile of PRU attendees is reflected nationally, where out of 13,240 children attending PRUs in England in 2010, 12,260 were aged 11-15 (DfE, 2010). The longitudinal research presented earlier demonstrated that the link between DS and DB is long-term and reciprocal, with the relationship being evident in samples ranging from age 10 to 19; as such, it is likely that even though the present sample spans most of adolescence (ages 11-15), a relationship between DS and DB should be observed.

### *Research questions*

- Is there an association between DS and DB in the PRU sample?
- Does DS or anxiety have the stronger relationship with DB?
- Does self-concept mediate the influence of DB on DS?



- Does self-concept mediate the influence of DS on DB?
- What impact do DS and DB have over academic attainment?

## **Chapter 3: Methodology**

## Participants

### *PRU characteristics*

Four Pupil Referral Units (PRUs) in a West Midlands Local Authority agreed to participate in the research. For more information on the consent procedure, please see *Procedure* and *Ethical Considerations*. There are a total of seven PRUs within this particular Local Authority (LA). One of these settings caters for young mothers, and one caters for young people who are deemed to be “Emotionally-Based School Non-Attendees”. The purpose of the present research was to study young people who attend PRUs because they have been excluded from school due to behaviour difficulties. As such the two aforementioned settings were not approached for participation. The remaining five PRUs all cater for young people who have been excluded from school. The LA refers to these settings as ‘behaviour units’. Four of these settings admit secondary-age pupils (Key Stage 3 and 4), and one admits primary-age pupils (Key Stage 2). The Primary-age PRU was not approached for participation for several reasons. If a primary-aged sample were to be included, a vastly increased array of assessment tools would need to be used. For example, the presentation of depression can vary according to age: younger children are more likely to report more physical complaints (such as headaches and abdominal pains), whereas adolescents are more likely to report feelings of low mood and have a higher rate of suicidal thoughts and self-blame (National Collaborating Centre for Mental Health, 2005). As such, if the age-range of the present sample was to encompass both primary-age and secondary-age children, it is likely that different methodological approaches would have been needed for the different age groups.

A total of four Key Stage 3 and 4 PRUs were approached for participation. For more information on the participating PRUs’ socio-demographic context and pupil intake, see Table 1. To preserve anonymity, the PRUs are referred to as PRU 1, PRU 2, PRU 3, and PRU 4.

Table 1: Participating PRUs' characteristics.

	PRU 1	PRU 2	PRU 3	PRU 4
Key Stage	Key Stage 3	Key Stage 3	Key Stage 4	Key Stage 3
Area of Borough	South	North	Whole borough	West
Number of pupils on roll	19	24	89	24
% pupils entitled to free school meals	100%	58.3%	41.6%	45.8%
Index of Multiple Deprivation (IMD) national decile (based on postcode of PRU) *	1	1	1	1

\* Decile 1 = most deprived; Decile 10 = least deprived

The Index of Multiple Deprivation (Payne & Abel, 2012) deciles were obtained from the LA Website. This particular section of the website provides a wide range of demographic information for each Lower Super Output Area (LSOA) of the region; the data is accessed by entering postcodes into a search engine on the website. Each postcode represents a particular LSOA. The deciles indicate the level of deprivation relative to all LSOAs in England: for example, a decile score of 1 indicates that the level of deprivation in the particular LSOA is in the bottom 10% of LSOAs in England, with 90% of LSOAs in England being less deprived. Based on this, Table 1 shows that each of the participating PRUs are situated in areas of great social deprivation. Indeed, according to information on the LA website, in 2010 the participating LA was ranked as the 12<sup>th</sup> most deprived LA out of 326 in England.

The Key Stage 3 PRUs (PRUs 1, 2, and 4) admit pupils from certain geographical locations in the LA; the Key Stage 4 PRU admits pupils from the whole of the borough. The IMD deciles refer to the postcode of the PRU building, and it is unlikely that the attending pupils will live in that particular postcode area. However, all participating pupils lived within the LA. The similarity of the deciles (all PRUs ranked in the 1<sup>st</sup> decile), and the LA's ranking

of 12<sup>th</sup> most deprived in England, suggests that one could assume that the majority of the attendees would be from relatively deprived areas.

### *Participant characteristics*

All pupils who attended the Key Stage 3 PRUs were invited to participate. In the Key Stage 4 PRU, all pupils in Year 10 were invited to participate. It was agreed that Year 11 pupils would not be invited, as the PRU staff wished for their time to be devoted to the GCSE (General Certificate of Secondary Education) process. The staff were keen for coursework and revision for upcoming examinations to take priority. Please see *Procedure* and *Ethical Considerations* for more information regarding the consent process. Out of a possible total of 97, 46 pupils participated. Of the 51 who did not participate, 2 were opted out of the study by their parents, and 49 were absent or at their mainstream school on the day of assessment. For more information on the characteristics of the present sample, please see Table 2.

Table 2: Sample characteristics

	Number of participants	Age range	Number of males	Number of females
Overall	46	11-15	37	9
PRU 1	8	12-14	5	3
PRU 2	8	11-14	7	1
PRU 3	19	14-15	14	5
PRU 4	11	11-14	11	0

The age profile of this PRU sample is reflected nationally, where out of 13,240 children attending PRUs in England in 2010, 12,260 were aged 11-15 (DfE, 2010). Furthermore, statistics suggest that, similar to the present study, there is an over-representation of males in PRUs in England (DfE, 2010).

## **Design**

This is a cross-sectional study, where participants were invited to complete a questionnaire battery consisting of two measures: The Beck Youth Inventories (BYI) (Beck *et al.*, 2005) and the Inventory of School Motivation (ISM) (McInerney, & Sinclair, 1991; McInerney, Yeung & McInerney, 2001). Scores on the various study measures were taken at one time-point between December 2012 and February 2013. It could be argued that the study is grounded in a positivist research philosophy, whereby we are able to take objective measurements of human behaviour, and these measurements are a true reflection of ‘reality’ (Robson, 2011). In the present study, the self-report measures completed by the participants are assumed to reflect their reality. This is a common approach in mental health research (Chen & Simons-Morton, 2009; Kofler *et al.*, 2011; Polier *et al.*, 2012; Reinke *et al.*, 2012; Robson, 2011). However, constructionist psychology would suggest one participant’s understanding of a question (and the answer options) may differ to another’s, and even though two participants may give the same answer, indeed their reality of the answer may be qualitatively different (Robson, 2011).

In the present circumstances, the methodology reflects a pragmatic choice taken to robustly and coherently answer the research questions. Other methodological approaches should be taken to answer different research questions related to this topic as appropriate;

these will be explored further in Chapter 5 (*Discussion*). Whilst constructing the literature review, it was apparent that information on the mental health needs of PRU attendees is sparse; indeed it has been suggested that a vast increase in understanding of the needs of PRU pupils is paramount (Centre for Social Justice, 2011; Mental Health Foundation, 2001; National Children's Bureau, 2011). As such, it was felt that an important starting point would be to observe certain trends within this population using larger sample sizes, by adopting a 'typical' approach to mental health research. Once these mental health trends have been identified, then it would be appropriate to adopt qualitative approaches to research. Here, more phenomenological elements could be investigated (for example, pupil perceptions of staff warmth) in order to add richness and depth to the understanding of the mental health of the PRU population.

## Measures

### *Depressive symptoms*

The Beck Youth Inventories Depression sub-scale (BYID) (Beck *et al.*, 2005) was used to assess depressive symptoms. The BYID is a widely used measure of depressive symptoms designed for use with children aged between 7 and 18 years. The scale consists of 20 statements including "*I think my life is bad*", "*I have trouble sleeping*" and "*I feel lonely*". Participants are given the following instructions: "*Here is a list of things that happen to people and that people think or feel. Read each sentence carefully, and circle the one word (Never, Sometimes, Often, or Always) that tells about you best, especially in the last two weeks. There are no right or wrong answers*". The instructions were also read out by the principal investigator. As the instructions suggest, participants are asked to respond to the

statements using one of the following: ‘never’, ‘sometimes’, ‘often’, or ‘always’. All items are worded in the same direction and higher total raw scores represent higher levels of depressive symptoms. The total raw score was converted to a T-score, so that participants’ scores could be compared to other young people of the same age. Participants’ T-scores ranged from 35 to 84.

In a review of the BYI, Bose-Deakins and Floyd (2004) report widespread agreement on the psychometric properties of each of the sub-scales. Scores on the depression sub-scale are significantly correlated with scores on the Children’s Depression Inventory (Kovacs, 1992), suggesting strong construct validity (Bose-Deakins & Floyd, 2004). In the BYID standardization sample, Beck *et al.* (2005) report Cronbach’s alpha coefficients of 0.91 for females and 0.92 for males, suggesting excellent internal consistency.

#### *Disruptive behaviour*

The Beck Youth Inventories Disruptive Behaviour sub-scale (BYIDB) (Beck *et al.*, 2005) was used to assess disruptive behaviour. The BYIDB is a widely used measure of disruptive behaviour designed for use with children aged between 7 and 18 years. The scale consists of 20 statements including “*I hate listening to other people*”, “*I argue with adults*” and “*I fight with others*”. Participants are given the following instructions: “*Here is a list of things that happen to people and that people think or feel. Read each sentence carefully, and circle the one word (Never, Sometimes, Often, or Always) that tells about you best. There are no right or wrong answers*”. The instructions were also read out by the principal investigator. As the instructions suggest, participants are asked to respond to the statements using one of the following: ‘never’, ‘sometimes’, ‘often’, or ‘always’. All items are worded in the same direction and higher total raw scores represent higher levels of disruptive behaviour. The total



raw score was converted to a T-score, so that participants' scores could be compared to other young people of the same age. Participants' T-scores ranged from 16 to 100.

The BYIDB has excellent construct validity (Bose-Deakins & Floyd, 2004) with scores on the disruptive behaviour sub-scale being closely correlated with scores on the Conners Adolescent Self-Report Scale (Conners, 1997), a commonly used measure of adolescent externalizing behaviour. In the BYIDB standardization sample, Beck *et al.* (2005) report Cronbach's alpha coefficients of 0.86 for females and 0.90 for males, suggesting excellent internal consistency.

#### *Symptoms of anxiety*

The Beck Youth Inventories Anxiety sub-scale (BYIA) (Beck *et al.*, 2005) was used to assess symptoms of anxiety. The BYIA is a widely used measure of symptoms of anxiety designed for use with children aged between 7 and 18 years. The scale consists of 20 statements including "*I am afraid that I will make mistakes*", "*I am afraid I might get hurt*" and "*I worry people might tease me*". Participants are given the following instructions: "*Here is a list of things that happen to people and that people think or feel. Read each sentence carefully, and circle the one word (Never, Sometimes, Often, or Always) that tells about you best, especially in the last two weeks. There are no right or wrong answers*". The instructions were also read out by the principal investigator. As the instructions suggest, participants are asked to respond to the statements using one of the following: 'never', 'sometimes', 'often', or 'always'. All items are worded in the same direction and higher total raw scores represent higher levels of symptoms. The total raw score was converted to a T-score, so that participants' scores could be compared to other young people of the same age. Participants' T-scores ranged from 36 to 74.

Bose-Deakins and Floyd (2004) report positively on the construct validity of the BYIA, with scores on the Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1985), being significantly correlated with the BYIA. In the BYIA standardization sample, Beck *et al.* (2005) report Cronbach's alpha coefficients of 0.89 for females and 0.91 for males, suggesting excellent internal consistency.

### *Self-concept*

The Beck Youth Inventories Self-Concept sub-scale (BYISC) (Beck *et al.*, 2005) was used to assess self-concept. The BYISC is a widely used measure of global self-concept designed for use with children aged between 7 and 18 years. The scale consists of 20 statements including *"I like myself"*, *"I am a good person"* and *"People want to be with me"*. Participants are given the following instructions: *"Here is a list of things that happen to people and that people think or feel. Read each sentence carefully, and circle the one word (Never, Sometimes, Often, or Always) that tells about you best. There are no right or wrong answers"*. The instructions were also read out by the principal investigator. As the instructions suggest, participants are asked to respond to the statements using one of the following: 'never', 'sometimes', 'often', or 'always'. All items are worded in the same direction and higher total raw scores represent higher self-concept. The total raw score was then converted to a T-score, so that participants' scores could be compared to other young people of the same age. Participants' T-scores ranged from 23 to 57.

Bose-Deakins and Floyd (2004) suggest that the BYISC has excellent construct validity, with scores being significantly correlated with other widely-used measures such as the Piers-Harris Children's Self-Concept Scale (Piers, 1996). In the BYISC standardization

sample, Beck *et al.* (2005) report Cronbach's alpha coefficients of 0.91 for females and 0.89 for males, suggesting excellent internal consistency.

#### *Academic attainment*

Teacher-assessed National Curriculum (NC) levels were used to gain a measure of the participants' performance in mathematics and English. NC levels can be converted into a corresponding points score using a nationally-used conversion table. Educational settings take several measures of NC performance throughout the academic year; as such the NC level assessed closest to the study date was taken. The assessments were carried out by PRU teachers. Data for 26 participants was collected; please see **“Procedure, study logistics and timeline”** for more information.

As NC levels increase with age, a between-participant difference in NC scores is likely to be attributable to age differences rather than a *true* difference in academic attainment. As such, the data would have to be prepared for analysis. This was done in two ways. First, a discrepancy score was calculated for each participant. Here, difference between the participants' current school year and the school year in which one would typically expect to attain the NC level was calculated. Each participant was given two NC discrepancy scores: one for English, one for mathematics. Participants' NC English discrepancy scores ranged from 0 to 9. NC mathematics discrepancy scores ranged from 0 to 7. Second, the NC levels were converted to corresponding points score. Each participant was given an NC English points score and an NC mathematics points scores. The NC points scores were entered into the statistical analysis, but with *age* entered as a covariate, so to statistically control for the effect of participants' age on NC points score. Participants' NC English points scores ranged from 11 to 33. NC mathematics points scores ranged from 17 to 35.

*School-oriented motivation*

The inventory of school motivation (ISM; McInerney, & Sinclair, 1991; McInerney, Yeung & McInerney, 2001). This is a 43-item measure of motivation at school, encompassing aspects of an individual's intrinsic motivation. Items include *"I like to see that I am improving in my schoolwork"*, *"I want to be praised for my good schoolwork"* and *"The harder the problem, the harder I try"*. Participants are given the following instructions: *"Please answer the following questions according to the following scale: 1 Strongly Disagree; 2 Disagree; 3 Unsure; 4 Agree; 5 Strongly agree"*. The instructions were also read out by the principal investigator. As the instructions suggest, participants respond to the items in the inventory according to a 5- point scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Unsure*, 4 = *Agree*, 5 = *Strongly agree*). Participants' scores ranged from 51 to 202.

This measure of motivation was selected due to its specific targeting of school-oriented motivation constructs. The measure was designed as an instrument through which motivation constructs could be identified in cross-cultural educational settings. There is considerable empirical evidence for the reliability and validity of the ISM (Birchwood & Daley, 2012; McInerney, & Sinclair, 1991; McInerney, Yeung & McInerney, 2001). The ISM was recently used by Birchwood and Daley (2012) in a study of over 300 adolescents, many of whom attended schools in the same Local Authority as the present study. Here, the authors reported a Chronbach's alpha coefficient of 0.97, suggesting excellent internal consistency.

**Procedure, study logistics and timeline**

In April 2012, the Humanities and Social Sciences Ethical Review Committee at the University of Birmingham granted study approval. In July 2012, each PRU was sent an email invitation to participate. The email stipulated that the principal investigator (James Birchwood) would contact them via telephone shortly after the email had been sent. The telephone conversation was used to arrange a meeting at each PRU, in which the study logistics were to be discussed in more depth. These meetings took place between July 2012 and September 2012, and were attended by a member of the PRU senior management staff and the principal investigator. Each PRU agreed to participate, and agreed that *opt-out* consent forms would be posted to all parents. Furthermore, it was agreed that the principal investigator would provide written and verbal study feedback to the PRU staff upon completion of the study (please see Appendix 1 for a copy of the staff feedback sheet). Pupils would be posted a summary of the findings (please see Appendix 2 for a copy of the pupil feedback sheet).

Study information packs (opt-out consent forms, study information letters, and study information pamphlets; see Appendix 3) were posted to parents between October 2012 and January 2013 (the date varied according to timelines agreed with each PRU). Approximately two weeks after posting the study information packs, the PRUs were informed of any pupils who had been opted out of the study (two pupils across the sample were opted out). Data collection took place between December 2012 and February 2013. The Ethical Review Committee agreed an amendment to the study in March 2013, whereby permission was granted for the PRUs to release the pupils' most recent national curriculum levels to the principal investigator. Pupils were required to complete an additional consent form (Appendix 4). This was carried out during a subsequent visit to the PRUs. The PRU staff released the

National Curriculum assessment data in April 2013. However, due to the upcoming thesis submission deadline and the likelihood of pupil mobility, a time-frame was set to gather the NC levels from the PRUs. One PRU did not return the NC data within the required time-frame. Of the other PRUs, NC data was not available for all pupils, thus resulting in 26 pairs of NC assessment levels (mathematics and English).

At each PRU, the specifics of data collection followed a similar pattern. Pupils completed the study in small groups: the group size varied across the PRUs, and ranged from 2 to 6. The group size depended on a number of factors, including pupil attendance, class size, pupil behaviour, and pupil literacy levels. It was agreed that those with literacy difficulties and a greater propensity for disruptive behaviour would complete the study in the smallest groups, thus allowing closer adult attention for literacy support and behaviour management. These groups were created by the PRU staff. Pupils with literacy difficulties (as identified by PRU staff) were given one-to-one support.

At least one PRU staff member was present during data collection. The groups completed the study questionnaire either in their classrooms or in another room (as designated by PRU staff). At the beginning of the data collection session, the pupils were given study information letters and consent forms (see Appendix 4). At the beginning of each session, PRU staff highlighted the need for cooperation and quiet work. The principal investigator then read out the information letter, highlighting salient points (including the idea that pupils were free to withdraw at any time), and giving pupils opportunity to ask questions. Pupils with identified literacy difficulties were given close adult support at this point. The prospective participants were then asked to complete and sign the consent form. Those who did not wish to participate were given schoolwork to complete.

Those who agreed to participate were then given the study questionnaire. Most participants appeared to complete the questionnaire without fuss. After signing the consent form, one participant informed me that he no longer wished to participate: he was therefore informed that he should continue with his schoolwork; however, a short time later, he requested to complete the measures. The questionnaire was comprised of four sub-tests of the BYI and the ISM. The principal investigator and staff members were on hand to answer questions. As mentioned above, those with literacy difficulties were given closer support (for example, those with more extreme difficulties had the questions read to them by a member of PRU staff). These pupils would typically be given similar support in the classroom. The questionnaire took between 10 and 20 minutes to complete, often depending on the literacy level and task focus of the pupil.

After completion of the study, the research was disseminated to Master's students in the School of Education at the University of Birmingham (Social, Emotional and Behavioural Difficulties Master's Course), and to West Midlands-based Educational Psychologists at a continuing professional development (CPD) conference.

### **Ethical considerations**

The research was carefully designed in order to ensure that rigorous standards of ethical practice were adhered to. As minors were taking part in the research, it was ensured that there was ample opportunity for participants and parents to gain an understanding of the nature, purpose, and potential consequences of the research. Letters and pamphlets were sent to parents of every pupil containing appropriate information. The letters also contained parental *opt-out* consent forms: here, parents were asked to return the form if they did not want their

child to take part in the research. The use of opt-out parental consent in this study was reviewed and accepted by the Humanities and Social Sciences Ethical Review Committee at the University of Birmingham. The parental *opt-out* approach was adopted for several reasons. Firstly, the data collection took place in educational settings, under the supervision of the principal investigator and PRU staff. Secondly, the opt-out procedure is less burdensome for busy parents, as it removes the requirement for the parent to take any action unless they do not wish for their child to take part. And thirdly, the consent process was in full accordance with British Psychological Society (BPS) guidelines: “...research with schoolchildren under the age of 18 also requires that parents or guardians be informed about the nature of the study and the option to withdraw their child from the study if they so wish.” (British Psychological Society [BPS], 2004: p.5). Parents are only required to return signed consent forms if the school requires it (BPS, 2004); in this research every PRU expressed a preference for the *opt-out* parental consent process, which they had each used in previous research participation and was supported by the school governors.

On the day of testing all pupils taking part provided written consent to participate in the research. The pupil information letter clearly indicated the participant’s right to withdraw from the study at any time. Participants were required to acknowledge that they understood their right to withdrawal by ticking a box on the consent form. The principal investigator highlighted this point when providing a verbal summary of the study at the beginning of each assessment session.

Several steps were taken to ensure the confidentiality of the data. Each participant was assigned an identification (ID) number. The list of ID numbers and corresponding names were kept in a locked filing cabinet. Data was not anonymised because if participants’ questionnaire responses and scores created cause for concern (for example, stating that “I



*wish I were dead: Often*”, or an overall score reflecting ‘very high’ levels of depression and anxiety), the PRU staff would be informed. It was agreed that typical PRU protocol would be followed by staff in such circumstances. Participants were informed of this prior to completing the study measures, and were required to acknowledge that they understood this by ticking a box on the consent form. In such an event, this information was reported back to the PRU staff in order to plan for intervention in line with the PRU’s safeguarding procedures (authorized by the local authority).

All confidential information (including questionnaires) was kept in locked filing cabinets in a secure location at the Local Authority Office. Only the principal investigator had access to this information. All identifiable features were removed from the data, with each participant being assigned a participant ID number. Participants names were kept separately from parent names and addresses (e.g. on a separate database and in a separate filing cabinet) in order to reduce the risk that third parties would link the data. Personal information was stored on the researcher’s protected drive of a University computer, and was password protected. Where it was necessary to transfer data electronically, an encrypted USB stick was used. All data will be destroyed 5 years after the study has been completed.

It is highly unlikely that completing this study caused any distress to the participants. However, in the unlikely even that distress was caused whilst completing the assessments, it was planned that the research be postponed, and possibly not continued. This did not occur in the present study. Participants were given information about who to talk to if they were affected by any issues arising from the research: Childline telephone contact details were provided, pupils were encouraged to speak to a member of PRU staff, and the researcher’s contact details were provided.

## **Chapter 4: Results**

**Data preparation**

Results of a 1-sample Kolmogorov-Smirnov test indicated that the data derived from the Beck Youth Inventories Self Concept (BYISC), Beck Youth Inventories Anxiety (BYIA), Beck Youth Inventories Depressive symptoms (BYID), Beck Youth Inventories Disruptive Behaviour (BYIDB), and the Inventory of School Motivation (ISM) were parametric. This was also the case for the National Curriculum discrepancy scores for English (NCDE) and mathematics (NCDM). In each case, the 1-sample Kolmogorov-Smirnov statistic revealed no significant departure from normality ( $p > .05$ ) (please see Appendix 5 for the frequency histograms showing the distribution of participants' mean scores, with accompanying normal curve). Therefore, parametric statistical tests were employed.

**Severity levels of depressive symptoms, anxiety, disruptive behaviour and self-concept**

To calculate the severity levels of depressive symptoms, anxiety, disruptive behaviour, and self-concept in the present sample, participants' raw scores on the BYI were transformed into age-normed T-scores. The test manual of the BYI gives T-score ranges for *average*, *mildly elevated*, *moderately elevated*, and *extremely elevated* levels for depressive symptoms, anxiety, and disruptive behaviour. T-score ranges of *much lower than average*, *lower than average*, *average*, and *above average* are given for the self-concept scale. The percentage of participants scoring within the various cut off points for depressive symptoms, anxiety and disruptive behaviour are displayed in Table 3. The percentage of participants scoring within the various cut off points for self-concept are displayed in Table 4.

Table 3: Percentage (and number) of participants falling within the cut-off points as defined by Beck *et al.* (2005) for anxiety, depressive symptoms, and disruptive behaviour.

Measure	Average	Mildly elevated	Moderately elevated	Extremely elevated
BYIA	73.9 (n = 34)	13.1 (n = 6)	8.7 (n = 4)	4.3 (n = 2)
BYID	67.4 (n = 31)	15.2 (n = 7)	8.7 (n = 4)	8.7 (n = 4)
BTIDB	41.3 (n = 19)	15.2 (n = 7)	17.4 (n = 8)	26.1 (n = 12)

Table 4: Percentage (and number) of participants falling within the cut-off points as defined by Beck *et al.* (2005) for self-concept.

Measure	Above average	Average	Lower than average	Much lower than average
BYISC	4.3 (n = 2)	28.3 (n = 13)	23.9 (n = 11)	43.5 (n = 20)

The BYI scores do not give direct indications of possible clinical diagnosis, therefore accurate estimates of prevalence cannot be made. However the BYI does allow the user to identify pupils who experience above average levels (*Mildly Elevated*, *Moderately Elevated*, and *Extremely Elevated*), which indeed may be of more interest when considering the continuum model of mental health. Table 3 shows that 26.1% of the sample rated as experiencing above average levels of anxiety; 32.6% had above average levels of depressive symptoms, and 58.7% had above average levels of disruptive behaviour.

In the BYI standardization sample, 26.8% of boys and 23.8% of girls age 11-14 reported symptoms of depression rated as either Mildly Elevated, Moderately Elevated, or

Extremely Elevated (i.e. above average). For disruptive behaviour, 23.2% of boys and 23.4% of girls reported above-average levels. For anxiety the figures were 22.7% and 22.8% for boys and girls respectively. Finally, 25.3% of boys and 25.2% of girls reported below average self-concepts. In the present sample, there seems to be an increase in above-average depressive symptoms, anxious symptoms, and disruptive behaviour. There are increased rates of below-average self-concept.

However, the BYI standardization sample consisted of young people in the USA in 1999, and as such the results should be treated with caution. Birchwood (2010) assessed levels of depression and anxiety in 428 14-15 year olds who attended 4 mainstream high schools in the UK. Two of the high schools were from the same LA as the PRUs in the present study, and as such this sample seems to be a more appropriate comparison. In Birchwood's (2010) sample, 31.8% were considered to be experiencing above average levels of anxiety, and 21.2% rated as experiencing above average levels of depressive symptoms. This suggests that a higher proportion of the present sample reported above average levels of depression compared to Birchwood (2010). Please note however that in Birchwood (2010), the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith (1983) was used to measure symptoms of depression and anxiety.

The figures in Table 3 could be compared to the findings of Williams *et al.* (2010) who used the BYI in a UK study of 598 pupils aged 10-11. Here, it was found that 'Extremely elevated' scores were reported by 7% of participants on the depression and anxiety sub-scales, and 5% on the disruptive behaviour sub-scale. Twenty-three percent reported 'Much lower than average' self-concept scores. Compared to Williams *et al.* (2010) the present sample reported more extreme disruptive behaviour, and more difficulties with self-concept. There was a marginally greater rate of depressive symptoms in the present sample.

In summary, more pupils experienced difficulties with depressive symptoms than anxiety. A greater proportion of pupils experienced difficulties with depressive symptoms compared to a mainstream sample. In a sample of pupils with high levels of disruptive behaviour, this points to a possible closer association between depressive symptoms and disruptive behaviour, compared to anxiety and disruptive behaviour. This will be explored in more detail below.

### **Levels of school motivation and academic performance**

The means and standard deviations for the national curriculum level discrepancy scores for English and mathematics (NCDE and NCDM) are displayed in Table 5. Table 5 also shows the mean raw score for the ISM.

Table 5: Means and standard deviations for NCDE and NCDM

Measure	Number of participants	Mean (SD)
NCDE	29	-3.52 (2.01)
NCDM	29	-3.14 (1.90)
ISM	46	132.52 (30.88)

The scores in Table 5 show that there was a mean discrepancy of 3.52 school years between participants' current school year and the school year within which one would likely achieve their national curriculum level for English. There was a mean discrepancy of 3.14 school years for mathematics. For both English and mathematics, the participants' performance was akin to a young person aged at least three years their junior.

The ISM mean score is remarkably similar to the mean score established by Birchwood and Daley (2012) who used the measure in a sample of 324 15-16 year-old pupils. The sample was taken from the same schools as Birchwood (2010). In Birchwood and Daley (2010), the mean ISM score was 132.53 (standard deviation = 34.38).

### **Gender differences**

Analysis of variance (ANOVA) was conducted to examine the differences in scores between males ( $n = 37$ ) and females ( $n = 9$ ) in the sample. Males and females were compared on all of the measured variables. There were no significant differences between males and females on scores derived from the BYIA, BYID, and ISM. There were no significant differences between males and females in NCDE and NCDM, although the difference in the NCDM could be considered as marginally non-significant ( $p = .057$ ), with a higher discrepancy score in females. However on the BYISC and BYIDB, there were significant differences. On the BYISC mean scores, females scored significantly lower (mean t-score = 35.00) than males (mean t-score = 41.57), ( $F = 4.63$ ;  $p = .037$ ). On the BYIDB, females scored significantly higher (mean t-score = 73.33) than males (mean t-score = 59.46), ( $F = 5.22$ ;  $p = .027$ ).

### **Correlation between all measured variables**

A Pearson correlation analysis was administered to explore the relationships between the variables. The results are displayed in Table 6.

Table 6: Pearson correlation between all measured variables

Measure	BYIA	BYID	BYIDB	ISM	NCDM	NCDE
BYISC	-.197	<b>-.482**</b>	<b>-.441**</b>	.255	.206	.101
BYIA		<b>.790**</b>	<b>.329*</b>	.176	-.111	-.326
BYID			<b>.499**</b>	.049	-.084	-.135
BYIDB				-.037	.001	-.096
ISM					<b>-.391*</b>	-.249
NCDM						<b>.587**</b>

Key: \*\* =  $p < .001$ ; \* =  $p < .05$

There were moderate to strong correlations between several of the scores derived from the Beck Youth Inventories – BYID, BYIA, and BYISC. The correlation coefficients between BYIDB and BYISC, BYIA and BYID suggest that those who were more disruptive were more likely to have a lower self-concept and higher levels of anxiety and depressive symptoms (although the correlation between BYIDB and BYIA is at best ‘modest’).

Surprisingly, none of the BYI measures correlated with ISM or the academic performance measures (NCDM, NCDE). A moderate negative correlation was found between ISM and NCDM, suggesting that those who were motivated were more likely to have a lower discrepancy between their current academic year and the academic year within which one would expect to achieve their National Curriculum assessment level.

The results provide some answers to the study research questions: (a) there is a positive, significant association between disruptive behaviour and depressive symptoms in



this PRU sample, and (b) there is a stronger correlation between disruptive behaviour and depressive symptoms than between disruptive behaviour and anxiety.

### **Does self-concept mediate the relationship between disruptive behaviour and depressive symptoms?**

The significant correlations between BYIDB, BYISC and BYID suggest that the relationship between disruptive behaviour and depressive symptoms may not be linear. It is possible that self-concept mediates the relationship between disruptive behaviour and depressive symptoms, as has been found elsewhere in a mainstream school sample in South Korea (Lee & Stone, 2012). Two analyses were carried out to answer two research questions. First, does BYISC mediate the impact of BYIDB on BYID? Second, does BYISC mediate the impact of BYID on BYIDB?

#### *Impact BYIDB on BYID*

To investigate the possible mediational role of self-concept in this relationship, the rules of Baron and Kenny's (1986) mediation model were applied to the data. Testing for mediation involves establishing four conditions amongst the independent variable (IV; disruptive behaviour), dependent variable (DV; depressive symptoms) and mediator variable (MV; self-concept), whereby: (1) the IV is significantly related to the DV; (2) the IV is significantly related to the MV; (3) the MV is significantly related to the DV; and finally, (4) when controlling for the effects of the MV on the DV, the effect of the IV on the DV is reduced. The correlation analysis reported above suggests that conditions 1, 2 and 3 have been met. Their relationship is demonstrated graphically in Figure 1.

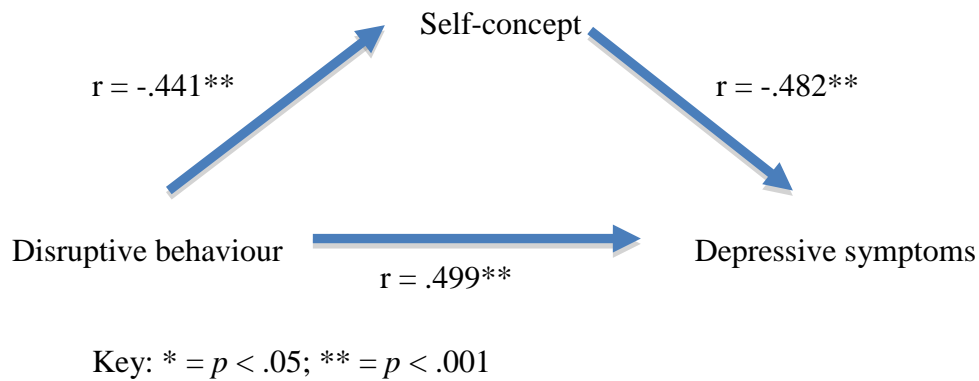


Figure 1: Graphical representation of correlation between disruptive behaviour, depressive symptoms, and self concept

To fully examine conditions 1-4, a number of regression models were calculated. In Model *i*, the impact of BYIDB over BYID was examined, and in Model *ii*, the impact of BYIDB over BYISC was examined. For Model *iii*, a two-step hierarchical regression analysis was carried out to test mediation conditions 3 and 4. Here, BYISC and BYIDB were entered into the model as predictors of BYID, with the hypothesized mediator variable (MV) – BYISC – entered at the first step, and BYIDB entered at the second step of the analysis.

Statistics revealed that Model *i* met the underlying assumptions for linear regression. Examination of the Durbin-Watson statistic (Durbin-Watson = 2.432) suggested that there was no violation of the assumption of independent errors: Field (2000) suggests that values less than 1 or greater than 3 are cause for alarm. There were no VIF statistics greater than 10 and no tolerance statistics below 0.2, suggesting that the assumption of no multicollinearity was tenable (Field, 2000). Scatter plots of the residuals against the predicted values revealed a

random profile centred around zero, (Appendix 6a) suggesting that the assumptions of linearity and homoscedasticity had been met (Field, 2000). Histograms (Appendix 6b) and normal P-P plots of the residuals (Appendix 6b) revealed that the assumption of normally distributed errors had not been violated (Field, 2000).

Model *ii* also met the underlying assumptions for linear regression. The Durbin-Watson statistic (Durbin-Watson = 1.721) suggested that there was no violation of the assumption of independent errors. It seems that the assumption of no multicollinearity was tenable with no VIF statistics greater than 10 and no tolerance statistics below 0.2 (Field, 2000). Examination of the scatter plots of the residuals (Appendix 7a) suggested that the assumptions of linearity and homoscedasticity had been met (Field, 2000). Histograms (Appendix 7b) and normal P-P plots of the residuals (Appendix 7b) revealed that the assumption of normally distributed errors had not been violated (Field, 2000).

Finally, Model *iii* was also shown to meet the underlying assumptions for linear regression. There was no violation of the assumption of independent errors (Durbin-Watson = 2.441). The VIF and tolerance statistics suggested that the assumption of no multicollinearity was tenable (Field, 2000). Scatter plots of the residuals against the predicted values revealed a random profile centred around zero, (Appendix 8a) suggesting that the assumptions of linearity and homoscedasticity had been met (Field, 2000). Histograms (Appendix 8b) and normal P-P plots of the residuals (Appendix 8b) revealed that the assumption of normally distributed errors had not been violated (Field, 2000).

The results of the mediation regression analysis are shown in Table 7.

Table 7: Regression analysis examining the mediating role of BYISC in the relationship between BYIDB and BYID

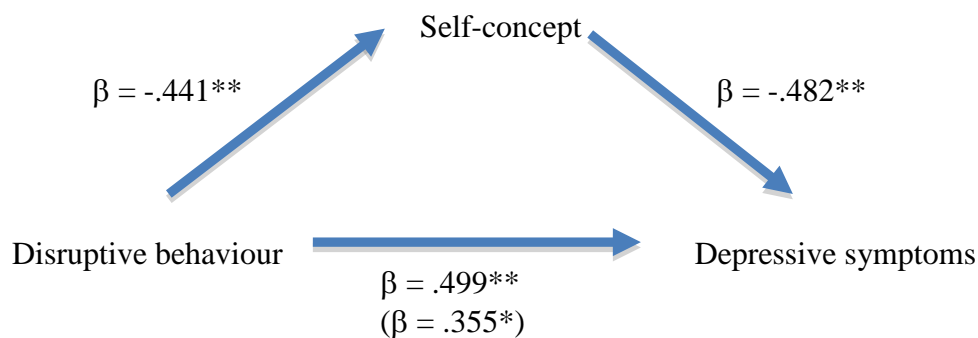
Regression model	R	R <sup>2</sup>	R <sup>2</sup> Change	Beta ( $\beta$ )
Model <i>i</i> : BYIDB on BYID	.499**	.249**		.499**
Model <i>ii</i> : BYIDB on BYISC	-.441**	.195**		-.441**
Model <i>iii</i> : Step 1: BYISC on BYID	-.482**	.232**		-.482**
Step 2: BYIDB on BYID	.578**	.334**	.101	.355*

Key: \*\* =  $p < .001$ ; \* =  $p < .05$

An examination of the Beta values in Table 7 shows that conditions 1, 2, and 3 of mediation have indeed been met. For example, the Beta value of .499 in Model *i* suggests that a change of one standard deviation in BYIDB will result in a change of .499 standard deviations in BYID. Interestingly, Model *iii* shows that when accounting for self-concept (i.e. BYISC), the impact of BYIDB on BYID reduces to  $\beta = .355$  ( $p < .05$ ), suggesting partial mediation.

‘Partial mediation’ refers to the idea that other variables not presently measured could also explain the relationship between BYIDB and BYID (full mediation would be observed when the impact of the IV on the DV is rendered non-significant when controlling for the MV). The Model *iii* Step 2 R<sup>2</sup> statistic implies that the combination of BYIDB and BYISC accounts for 33.4% of the variance in BYID. This is over and above the variance in BYID accounted for by BYIDB (24.9%; see Model *i*) and BYISC (23.2%; see Model *iii* Step 1).

The partial mediation of BYISC is represented graphically in Figure 2.



Key: \* =  $p < .05$ ; \*\* =  $p < .001$

NB: the figure in parentheses represents the adjusted influence of disruptive behaviour on depressive symptoms

Figure 2: Graphical representation of the mediating role of self concept on the relationship between disruptive behaviour and depressive symptoms

The information presented in Figure 2 suggests that the mechanism by which disruptive behaviour impacts on depressive symptoms can, in part, be explained by the presence of a negative self-concept.

#### *Impact of BYID on BYIDB*

The analysis as detailed above was reversed, where the impact of BYID on BYIDB was examined whilst controlling for BYISC. Again, the regression models met all of the underlying assumptions for multiple linear regression (Field, 2000). The results were similar to the results of the previous analysis. That is, controlling for BYISC reduced the impact of BYID on BYIDB, suggesting partial mediation. Here, the Beta value representing the impact of the IV over the DV reduced from .499 to -.373. This suggests that, after controlling for

BYISC, a change of one standard deviation in BYID will result in a change of .373 standard deviations in BYIDB. A graphical representation of how self-concept mediates the impact of depressive symptoms on disruptive behaviour is presented in Figure 3.

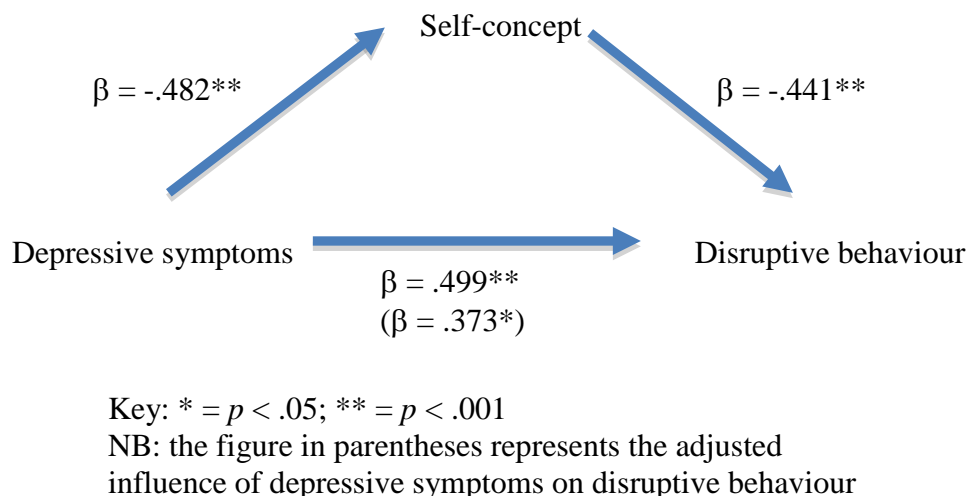


Figure 3: Graphical representation of the mediating role of self concept on the relationship between depressive symptoms and disruptive behaviour

Furthermore, the combination of BYID and BYISC accounted for 30.1% of the variance in BYIDB scores; this combined impact accounted for more variance in BYIDB scores than the independent impact of BYID (24.9% of variance) and BYISC (19.5% of variance in BYIDB).

There is a marginal difference between the impact of BYIDB and BYISC on BYID (33.4% of variance) and the impact of BYID and BYISC on BYIDB (30.1% of variance). This suggests that the combined influence of depressive symptoms and negative self-concept on disruptive behaviour is as robust as the combined influence of disruptive behaviour and

self-concept on depressive symptoms. Theoretical and practical implications will be discussed in Chapter 5 (*Discussion*).

### **The relationship between depressive symptoms, disruptive behaviour and academic attainment**

As mentioned in the *Methodology* chapter, pupils' NC scores were prepared for analysis using two methods. The first method involved calculating a discrepancy score, where the school year in which one would expect to attain the NC level was subtracted from the participants' current school year. The second method involved entering the raw NC scores directly into the analysis, with participants' age being statistically controlled. The relationship between the various academic attainment measures and the other study variables will be presented below.

#### *Academic discrepancy scores*

Examination of Table 6 shows no significant correlations between any of the BYI variables and either NCDE or NCDM. Depressive symptoms and disruptive behaviour were not related to the discrepancy between current academic year and the academic year at which one out typically achieve their National Curriculum assessment levels. Therefore, no multivariate analyses were carried out to further investigate the independent impact of BYIDB and BYID on academic performance. However, there was a significant, albeit modest, correlation between the ISM and NCDM.

*Raw NC scores, controlling for age*

To examine the relationship between NC raw scores and the study variables, partial correlation coefficients were calculated, with participant age entered as a covariate. The results are shown in Table 8.

Table 8: Partial correlations between the study variables, with age entered as a covariate

Measure	NCRM	NCRE
BYISC	-.050	-.021
BYIA	-.013	.220
BYID	-.105	.070
BYIDB	-.033	.133
ISM	.369	.192
NCRM		<b>.589**</b>

Key: \*\* =  $p < .001$ ; \* =  $p < .05$

The results shown in Table 8 show no significant correlations between the measures of academic attainment (NCRE and NCRM) and any of the BYI sub-scores. As was shown above, there is a suggestion of an association between motivation and NCRM, with the coefficient of .369 considered to be marginally significant at  $p = .053$ . As would be expected, a strong correlation can be seen between NCRM and NCRE.



## **Chapter 5: Discussion**

**Summary of thesis findings***Overview of aims and objectives*

The aim of this thesis was to examine the relationship between disruptive behaviour (DB) and depressive symptoms (DS) in a sample of young people who have been excluded from school and attend Pupil Referral Units (PRU) in a West Midlands Local Authority. Within this general aim, there were several specific objectives. First, by applying the depression-disruptive behaviour literature to the PRU population, one could infer that there would be a positive association between DB and DS. As such, the first specific objective was to examine the strength of the relationship between DB and DS. Second, some studies have demonstrated that DB is also correlated with anxiety and internalizing problems (depression and anxiety together) (Cunningham & Ollendick, 2010; Lee & Stone, 2012). Therefore, the second objective was to delineate DS and anxiety, and examine the relative strength of their relationship with DB. Third, evidence suggests that the relationship between DB and DS is not direct: other variables, such as negative self-concept, are likely to mediate the relationship. As young people excluded from school are likely to have low self-concept (Mainwaring & Hallam, 2010; Rendall & Stuart, 2005), the third objective was to examine the extent to which self-concept mediates the influence of DB on DS. A similar analysis was also carried out to examine the extent to which self-concept mediates the impact of DS on DB. Finally, research suggests that both DB and DS are linked with academic difficulties; as such, if there were indeed increased rates of DB and DS in the present sample, the final objective was to study their relative impact on academic performance.

*Key findings*

The results of this study have demonstrated that DB and DS are closely linked in young people who attend PRUs. The significant correlation between DB and DS suggests that the more disruptive pupils in this sample were more likely to report symptoms of depression. This mirrors the findings that have been consistently established in the literature, where the association between DB and DS has been demonstrated in both community and clinical samples (Boylan *et al.*, 2007; Wolff & Ollendick, 2006).

The results of the correlation analysis also confirmed that there is a closer association between DB and DS than between DB and symptoms of anxiety. This suggests that, in this PRU sample, the most disruptive children were more likely to report DS rather than symptoms of anxiety. Although many previous studies have demonstrated an association between DB and ‘internalising difficulties’ (Lee & Stone, 2012), the results of the present study suggest that within the internalizing dimension, depression is a greater concern in young people excluded from school due to persistent DB.

It was also found that self-concept mediated the relationship between DB and DS, where negative self-concept helped to explain the mechanism by which DB impacts on DS. In other words, the combined presence of high DB and a negative self-concept increased the likelihood of DS over and above the independent impact of DB and self-concept on DS. In addition, this analysis was reversed. It was found that the combined impact of DS and self-concept increased the likelihood of DB, over and above the independent impact of DS and self-concept on DB. Therefore, based on the present data, one can parsimoniously assume that DB and DS mutually interact via negative self-concept. Although, the size of the statistical coefficients imply that other factors also influence the relationship (this will be explored in more detail later). Furthermore, no firm inferences regarding causality can be made due to the

cross-sectional nature of the study. The role of self-concept established in the present study supports previous research. For example, Lee and Stone (2012) found that negative self-concept greatly increased the strength of the relationship between internalizing difficulties and DB in a large general population sample of 10-13 year-olds. However, the present study has extended the findings of Lee and Stone (2012) by (a) applying their findings in a specific population, (b) establishing that the effect is evident when considering DS alone, rather than measuring a more general dimension of 'internalising difficulties', and (c) demonstrating the effect through to age 15 [i.e. mid-adolescence *cf.* childhood-early adolescence in Lee and Stone (2012)]. Furthermore, the present findings support the notion that young people excluded from school are likely to have difficulties with elements of their self-concept (Mainwaring & Hallam, 2010; Rendall & Stuart, 2005). Therefore, not only does this study confirm the likelihood of a negative view of self in excluded pupils, the role of negative self-concept in increasing the strength of the association between DB and DS has also been demonstrated. Furthermore, the sample size of the present study is more than twice that of Rendall and Stuart (2005) and Mainwaring and Hallam (2010), thus increasing the generalisability of the findings.

By applying the developmental cascade (*Failure*) model of the link between DB and DS, it is perhaps of little surprise that the students in the present sample reported such negative self-concepts. Young people in PRUs are likely to have displayed persistent DB over time; this persistent DB is likely to lead to impaired interpersonal relationships, social rejection, a lack of social support networks, and academic difficulties (Wolff & Ollendick, 2006). Indeed, the present sample were found to be at least three years behind the expected academic level for pupils of their age. Such persistent 'failure' is likely to reduce self-confidence, and lead to the young person to answer negatively to the BYISC items, including

*“I feel smart”, “I feel proud of the things I do”, “I am just as good as the other kids”, and “People want to be with me”*. In addition, negative self-concept has been shown to underpin depressive experiences (regardless of existing DB), therefore if any of the participants experienced a history of DS (as the *Acting Out* model would suggest), it is unsurprising that they reported a negative self-concept.

In addition to providing information regarding the interplay between DB, self-concept and DS, the results of the study suggest that there may be increased levels of DS in the present sample when compared to the general population. In the present study, 32.6% reported above average levels of depressive symptomatology. This is compared to 26.8% of boys and 23.8% of girls in the BYI USA standardisation sample. Furthermore, in a mainstream secondary school sample of over 400 pupils, half of which were in the same local authority as the present sample (thus increasing the comparability), 21.2% reported ‘above average’ levels of depressive symptoms (Birchwood, 2010); over 10% less than in the present sample. Although different measures of depression were used in the two samples, cross-sample comparisons seem valid. In Birchwood (2010) the Hospital Anxiety and Depression Scale (HADS; Zigmond & Snaith, 1983) was used, but in the present study, the Beck Youth Inventories depression subscale (Beck, *et al.*, 2005) was used. However, the external validity and clinical utility of the measures suggests that they both measure the same constructs (Beck, *et al.*, 2005; Bjelland *et al.*, 2002; White *et al.*, 1999), and as such cross-measure comparisons are robust. However, the results also showed that the proportion of young people at the extreme end of the depression continuum could be similar to the mainstream population. Williams *et al.* (2010) found that 7% of their sample of 10-11 year-olds reported ‘extremely elevated’ levels of depressive symptoms; this is compared to 8.7% in the present sample. Although there may not be an increased number of pupils who express extreme levels of

symptoms, the continuum model of mental health suggests that the increased number of pupils who reported 'above average' symptoms are also at risk of experiencing personal distress and impairment, and as such may be in need of support, regardless of diagnosis (Angold *et al.* 1999; Dogra *et al.*, 2009).

Interestingly, a greater proportion of the mainstream sample in Birchwood (2010) reported difficulties with anxiety than the present sample (31.8% compared to 26.1%). This could be explained by the gender imbalance of the present sample. Evidence suggests that more girls than boys are likely to report difficulties with anxiety (White *et al.*, 1999); although gender comparisons revealed no significant difference in anxiety levels between boys ( $n = 37$ ) and girls ( $n = 9$ ) in the present study, the greater proportion of girls in Birchwood (2010) compared to the present sample (49% compared to 20%) could explain the relatively reduced incidence of anxiety in the present sample. Alternatively, perhaps the reduced rate of anxiety in the present sample could indeed be a true effect, where a sample of young people with high rates of disruptive behaviour (58.7% reported above average disruptive behaviour) reported more difficulties with depression than anxiety.

The final element of the present study was to examine whether the predicted psychological difficulties (namely DB and DS) had an impact on the pupils' academic attainment. Evidence suggests that both DB and DS are closely linked to academic difficulties; however, in the present sample, no association was found between NC levels and any of DB, DS, anxiety, and self-concept. However, as would be expected (Gilman & Anderman, 2006; Meece *et al.*, 2006; Walberg, 1984) a correlation was established between school motivation and National Curriculum (NC) levels, although this was only for mathematics performance, not English.

The negative results (i.e. no apparent association between NC level and disruptive behaviour or depression) were found when (a) calculating academic performance as the discrepancy between current year-group and the year-group in which one would typically be expected to achieve the NC level, and (b) examining correlations using the raw NC score but with *age* added as a covariate, to counter the age dependency of the NC raw scores. This finding was unexpected, and is indeed counter to the literature. However, it could be that the widespread low NC scores (few pupils were achieving at their age-expected level) resulted in a small variance of scores, thus ensuring that it was difficult to establish linear relationships. Additional methodological explanations are explored below.

### **Methodological Considerations**

There are several methodological considerations to take account of when interpreting the results of this thesis. Firstly, the epistemological position of the research should be considered. By using self-report measures of symptoms, it could be argued that the research is grounded in a positivist paradigm whereby participant responses are assumed to be an accurate reflection of their reality (Robson, 2011). Constructionist psychology would suggest that different participants may have qualitatively different understandings of the questionnaire statements and answer options, and as such one cannot be certain that the results are *true* reflections of the participants' realities (Robson, 2011). However, the use of self-report measures is commonplace in mental health research (Chen & Simons-Morton, 2009; Kofler *et al.*, 2011; Polier *et al.*, 2012; Reinke *et al.*, 2012; Robson, 2011), and indeed the intention of the present research was to adopt this common approach in order to observe trends in the PRU population, thus providing generalisable findings regarding the needs of this population. Other research approaches, grounded in different epistemologies, could be taken in future

work in order to complement the present findings; here, more qualitative data could be collected on the subjective experiences of young people in PRUs.

Within the quantitative research literature, there is debate regarding the validity of self-report measures (Berg-Nielsen *et al.*, 2003; King & Bruner, 2000; Van de Mortel, 2008), such as those used in the present study (Beck Youth Inventories and Inventory of School Motivation). Research suggests that individuals are likely to show themselves in a favourable light when completing self-report measures (King & Bruner, 2000; Van de Mortel, 2008) and as such there may have been under-reporting. It could be argued that secondary ratings made by teachers, parents, or peers may have increased the robustness of the findings. However constructs such as anxiety, depression and self-concept are quintessentially subjective characteristics that are not always revealed in overt behaviour. Berg-Nielsen *et al.* (2003) suggest that self-reports are a vital tool in the assessment of depression, anxiety and self-concept. Using secondary ratings would have equally been subject to the criticism that these have as many, if not more, problems of validity than self-report (Beck *et al.*, 2005). Furthermore, Beck *et al.* (2005) suggest that self-report measures engage the young person in the assessment process and reduce demands on the verbal expression and articulation of complex thoughts and feelings. Indeed, this could be particularly important in the PRU population where, evidence suggests, language expression difficulties are likely to be an additional problem (Heneker, 2005; Ripley & Yulli, 2005). Nevertheless, a secondary rating of DB would have been interesting, as it could be argued that the behaviour causes disruption to others more than the individual him/herself. Although the concept of using secondary informant ratings could be advantageous to studies of this nature, in reality for a thesis of this scale, it would have been logistically difficult to ask enough parents or teachers to complete additional measures in order to gain a sufficient sample size.



As well as a favourable ratings bias, the measures used in this study were at risk of *acquiescence* bias, which refers to an individual's propensity to agree or disagree with questionnaire items regardless of their content (Podsakoff *et al.*, 2003). The likert scales in the BYI and ISM are at risk of this bias, with participants potentially slipping into a rhythm of always selecting the first or last statement (as would be in acquiescent responding). However there are several reasons to suggest that acquiescence bias can be ruled out. If acquiescent responding was widespread, then it is highly unlikely that the results of the research (comparable prevalence rates and correlations) will have been established. Another reason is that the items in the BYI self-concept scale and the ISM were worded positively, and the items in the BYI anxiety, BYI depression and BYI disruptive behaviour were worded negatively; if participants constantly selected the same (or similar) rating for each statement then it is unlikely that the present results will have been established (negative correlation between self-concept and DS, for example). Clearly participants were thinking carefully when responding to the items in each scale.

Although it is unlikely that rater biases such as acquiescence affected the findings, there are procedures that could have been adopted to protect the validity of the findings. For example, some items in the BYI and ISM could have been reversed: for example, in the BYI depression scale, a low score on some items would now indicate greater severity, rather than reduced severity. However adjusting the measures in this way would have created a non-standard measure and thus raised concerns about reliability and validity. Alternatively, the items could have been counterbalanced: there could have been several versions of the questionnaire, with the items appearing in a different order in each one, thereby counteracting possible order effects.

Overall, it seems that the ratings from each scale are valid because: (a) they are predominantly and quintessentially subjective characteristics for which there is no definitive arbiter of validity, and (b) the results of the study were expected and support previous findings, suggesting that participants were indeed responding according to these ‘internal dimensions of experience’ and not, for example, a generalised response bias.

Another issue for consideration is the validity of the academic achievement measure: teacher-assessed national curriculum levels. Although teachers have regular contact with pupils, and would be able to provide first-hand indications of their ability, the validity of the measure could be called into question in the present circumstances. Contrary to previous findings (Chen & Simons-Morton, 2009; Frojd *et al.*, 2008; Shahar *et al.*, 2006; Werry, 1997), no links were established between academic performance and depression, anxiety, and disruptive behaviour. An alternative approach could have been to use a standardized measure of academic attainment, such as the Wechsler Individual Achievement Test (WIAT-II; Wechsler, 2005), which gives measures of the test-taker’s skills in a number of areas of the curriculum, such as word reading and mathematical computation. However, to carry out 46 standardised assessments would have been beyond the scale of this thesis: WIAT-II assessments must be carried out individually, and would have therefore increased the length of the data collection session to over 1 hour per pupil.

In the present study, a continuum model of mental health was applied, where experiences and behaviours outside of clinical boundaries were assessed. Whilst there are clear benefits to employing non-clinical samples (Angold *et al.*, 1999), the results cannot necessarily be extrapolated to individuals with diagnoses of clinical depression or DB disorders. For example, perhaps those who are diagnosed with depression and a comorbid DB disorder may have greater difficulty with their academic progress due to the severity, number,

and pervasiveness of symptoms. In addition to DB, a diagnosis of depression is typically accompanied by several other comorbid difficulties such as anxiety, substance abuse, and low self-concept (Carr, 2006); therefore, the impact of these additional problems on school adjustment could exacerbate the academic problems experienced by these individuals.

Also, there were several other variables that could have been controlled for in the mediation analysis, to further examine the mechanism by which DB is linked to DS. In addition to self-concept, other factors such as socio-economic status, parental psychopathology, peer relationships, and family relationships could have been examined. Further research may plausibly examine the impact of these additional variables; however, the aim of this study was primarily to examine whether there *is* a link between disruptive behaviour and depressive symptoms in a PRU sample, and whether this link is mediated by low self-concept (as self-concept has been shown to be low in those excluded from their mainstream school). The next stage would then be to test for other mediators. This stepwise approach is common in much psychological research. A clear rationale would need to be put together as to why socioeconomic status, parental psychopathology or interpersonal relationships could also mediate the relationship.

It should also be noted that a large number of participants had to be removed from the analysis due to missing NC levels. Here, one PRU did not return the NC data within the required time-frame, and the other PRUs did not have NC levels available for all pupils. As such, the sample size was underpowered, and therefore the external validity of the negative results comes into question: i.e. perhaps a larger NC data set would have given a wider variance in scores, thus increasing the likelihood of establishing associations with the psychopathology scores.

The results of the present study highlight the relationship between disruptive behaviour and depressive symptoms in a PRU sample, however concrete assumptions of causality cannot be made. This study was of cross-sectional design: longitudinal research would need to be carried out in this population to ascertain whether early DB led to DS, or if early DS led to DB, or indeed if each are antecedents and consequences of the other [as suggested by Lee and Stone (2012)].

### **Implications**

The results of this thesis have wide implications for professional practice – for Educational Psychologists (EPs) and other professionals who work with children and young people who attend PRUs, and also children and young people who are at risk of exclusion from mainstream schools.

Firstly, EPs are in a prime position to support educational settings with the accurate identification of pupil needs, and giving guidance on appropriate support and intervention programmes (Rait *et al.*, 2010). Parents and teachers of young people with disruptive behaviour difficulties will most likely seek support for the management and amelioration of disruptive behaviour, and will often overlook additional symptoms of depression due to their ‘internalising’ nature (Wolff & Ollendick, 2006). It is surely therefore a responsibility of the EP to apply the findings of the literature and indeed the present study within their psychological formulation of the presenting ‘problem’. This would be particularly important when working with pupils at risk of exclusion from mainstream schools, and with those who have been excluded and attend a PRU. Here, when conceptualising a case, one should be aware that highly disruptive pupils could also be experiencing depressive symptoms, particularly when there is evidence of negative self-concept. As the *Faliure* model (Wolff &

Ollendick, 2006) suggests, it is likely that disruptive behaviour will have a deleterious impact on individuals in the child's immediate ecosystem (e.g. peers, teachers and parents), and as such the dominant discourse around the child will be one of disruptive behaviour. A key role for the EP could be to challenge this discourse, and present a wider hypothesis that takes account of the presence of other 'hidden' difficulties, and thus propose intervention strategies that do not simply focus on the amelioration of undesirable behaviour. Furthermore, there is evidence to suggest that targeting depression in intervention can also bring about reductions in associated DB in young people who experience difficulties with depression and DB (Kovacs *et al.*, 1988).

Focusing intervention away from the overt disruptive behaviour may not be in line with intervention strategies most commonly implemented in schools, such as Assertive Discipline (Canter, 2011). In a survey of EPs, Hart (2010) found that most psychological interventions implemented by EPs for classroom behaviour problems were based in behaviourist paradigms (e.g. rewards and sanctions). Although such approaches have been shown to effectively bring about reductions in undesirable behaviour (at least in the short-term), neglecting to address underlying or additional difficulties may have adverse long-term consequences (Sanches *et al.*, 2012).

By highlighting the prominence of depressive experiences in young people who attend PRUs, the results also have implications for the therapeutic role of professionals who support these young people. The Centre for Social Justice (2011) asserted that it is critical that PRUs are not left alone to deal with the particularly complex needs of their pupils: other professionals, such as EPs, have a key role to play. The high likelihood of mental health difficulties (such as depression) in this population, in addition to the fact that these needs will often have gone unaddressed and unmet in their mainstream schools, suggests that PRUs

should be given appropriate support in order to best meet the complex needs of their pupils (Centre for Social Justice, 2011; National Children's Bureau, 2011).

Providing support and intervention in the mental health domain has traditionally been the responsibility of health professionals; for children and young people, this responsibility falls to the Child and Adolescent Mental Health Service (CAMHS). In recent years however, UK legislation has proposed that supporting the mental health of children and young people is the responsibility of *all* professionals who work with them (Rait *et al.*, 2010). Furthermore, UK health services are straining under the financial weight that is placed upon them by mental health difficulties such as depression (National Collaborating Centre for Mental Health, 2005) and CAMHS are struggling to find capacity to adhere to recent NICE guidelines (Murray & Cartwright-Hatton, 2006; National Collaborating Centre for Mental Health, 2005; Stallard, *et al.*, 2007). Therefore, there seems an opportunity for EPs to become involved in the prevention, early identification, and management of child and adolescent mental health difficulties (Greig, 2004; Rait, *et al.*, 2010). Based on the findings of the present study, this could involve providing support for the management of depression in PRU attendees, in addition to those who are at risk of exclusion from mainstream schools.

Therapeutic intervention carried out by EPs in PRUs could involve one-to-one therapy, work with groups of 'at-risk' individuals, or supporting staff to deliver universal intervention programmes. As mentioned above, this therapeutic protocol could also be applied to mainstream settings with the aim of supporting those at risk of exclusion. Cognitive-Behavioural Therapy (CBT) is seen as the 'gold-standard' psychological intervention for depression in children and young people (National Collaborating Centre for Mental Health, 2005; Wolpert *et al.*, 2006). CBT has origins in the cognitive model of depression (Beck, 1976), and emphasises the interaction between cognition and behaviour in the maintenance

and indeed dissipation of mental health difficulties (Fuggle *et al.*, 2013). CBT approaches for depression have also been shown to be effective outside of clinical boundaries (Horowitz & Garber, 2006); therefore, based on the current findings, an important role for the EP in PRUs could be to provide psychological intervention for young people who experience depressive symptoms (but who do not necessarily have a formal diagnosis). As the results showed, over 30% of the present sample reported 'above average' levels of DS, and as such could benefit from some form of therapeutic intervention.

Furthermore, evidence suggests that certain cognitive processes underlie both depression and disruptive behaviour; therefore, targeting these common processes through CBT techniques could have multiple benefits (Wolff & Ollendick, 2006). Working with groups or individual pupils, the EP could promote cognitive and behavioural skills training, employing techniques such as relaxation, problem solving, anxiety management, and assertiveness (Horowitz & Garber, 2006). Other approaches could include making more realistic, less pessimistic attributions, developing a more flexible thinking style, and teaching problem solving skills (Horowitz & Garber, 2006).

Although the results of the present study highlight the contemporaneous mental health needs of young people in PRUs, it is highly likely that the onset of these difficulties be traced back to an earlier point on the young person's life. As such, in addition to providing mental health support to PRUs, the EP could also have a valuable role to play in the prevention of DB and DS in mainstream schools (Rait *et al.*, 2010). This could reduce the likelihood that these complex difficulties will evolve and persist throughout adolescence, thus potentially leading to more positive outcomes. In addition to supporting whole-school mental health promotion, certain sub-groups who are deemed to be 'at risk' could receive more focused support, where identified risk factors are the targets for intervention (Horowitz & Garber,

2006; Lee & Stone, 2012; Wolff & Ollendick, 2006). Common risk factors include social cognitive distortions and emotion regulation (Wolff & Ollendick, 2006). Targeting risk factors that are common to DS and DB could have multiple benefits, including the prevention of symptoms, the reduction of symptoms, the reduction of personal distress, and the reduction of additional risks such as school exclusion. The reciprocal, long-term, nature of the relationship between DB and DS suggests that prevention and early intervention is of paramount importance.

The involvement of EPs in a therapeutic role within PRUs and mainstream settings could be highly beneficial. Professionals from CAMHS typically work to a diagnostic model, where young people are diagnosed with a condition, and are treated accordingly (through psychological intervention or pharmacological treatment). However, individuals who do not meet diagnostic thresholds, or who have simply not been referred to CAMHS, may still be experiencing symptoms and distress, and as such may require support (Angold *et al.*, 1999; McGorry, 2011). As mentioned above, this may be particularly pertinent in the PRU population, where a large proportion of pupils reported symptoms of concern, but not necessarily at the most extreme levels. As the most prevalent group of child psychologists in the public sector, operating within communities, EPs appear to be in a key position to provide support for identification and management of DS and DB in young people, regardless of a categorical diagnosis (MacKay, 2007). Some suggest that EPs' community orientation is preferable to the clinic-based work of colleagues in CAMHS (Rait, *et al.*, 2010). Rait *et al.* (2010) suggest that the future of psychological support for young people with mental health difficulties could lie within educational settings, where the relatively safe base of the classroom is seen as an ideal therapeutic arena. Furthermore, the CAMHS model of clinic-based therapy is often seen as prohibitive for families, particularly those with limited material



and motivational resources (Rait *et al.*, 2010). Perhaps the PRU could be an ideal base for the EP to carry out mental health intervention.

The findings of this thesis, and subsequent implications (EP involvement in therapeutic intervention), could be viewed as aligning with medical models of child development, where problems are seen as residing within the individual, and environmental factors are often overlooked. However, it has been argued that not all human problems can be conceptualised using purely social models, and the interaction of psychological, social, environmental and biological factors should be embraced when considering a ‘problem’ and developing intervention plans (MacKay & Greig, 2007). As Bronfenbrenner’s (1979) ecological systems model would suggest, the young person is at the core of the system, and if there is evidence of psychological distress, then EPs have a duty of care to provide support as necessary, even if this is direct ‘therapy’ (MacKay & Greig, 2007). Furthermore, in the present circumstances, providing support for the management of DS in PRU attendees need not only involve direct work with the pupil. For example, CBT approaches have been shown to be more effective when key adults in the young person’s life take an active role in the therapeutic process (Fuggle, *et al.*, 2013).

The identification of the mediating role of self-concept in the relationship between disruptive behaviour and depressive symptoms suggests that self-concept could be an important starting point in intervention strategies for both disruptive behaviour and depression (Lee & Stone, 2012). Mainwaring and Hallam (2010) suggested that a history of negative experiences of young people who have been excluded from school (and therefore attend PRUs) leads to a negative view of the self and future. One approach to fostering a more positive view of self could lie in supporting the pupil to have more concrete, positive aims for the future, i.e. focusing on the ‘possible self’. Possible selves are the ‘future oriented’

component of self-concept (Oyserman *et al.*, 2002). The importance of the possible self in the development of the self-concept has been highlighted in the literature (Day, *et al.*, 1994; Mainwaring & Hallam, 2010; Oyserman *et al.*, 2006). Carey and Martin (2007) proposed that pupils should be supported to develop visions of their ‘hoped-for’, ‘feared’ and ‘expected’ possible selves, where connections are made between current behaviour and the likelihood of the ‘hoped-for’ or ‘feared’ possible selves becoming a long-term reality. Mainwaring and Hallam (2010) suggest that these approaches could be applied in PRUs, where pupils receive dedicated time to set goals, and importantly explore the connections between current behaviour and future selves. Developing the skills and approaches needed to reach the desired future self can support the development of the individual’s current self-concept (Mainwaring & Hallam, 2010).

Another approach to fostering positive views of self could come through effective, robust assessment of pupil needs, in particular academic skills. Several of the items in the BYI self-concept scale refer to the individual’s perception of academic competence (for example “*I am just as good as the other kids*” and “*I feel smart*”); although the scale does not give indications of a specific, academic self-concept, the worryingly low scores on the scale (67.4% reported ‘below average’ levels of self-concept) suggest that one area of difficulty could be the pupils’ academic self-concept. Evidence suggests that raising academic self-concept can have a great impact on school engagement and academic outcomes (Mainwaring & Hallam, 2010; Oyserman, *et al.*, 2002). Pupils who are seen as disruptive often find that their underlying needs are unmet (Centre for Social Justice, 2011; Wolff & Ollendick, 2006), and as such are likely to have experienced academic failure. Indeed widespread academic difficulties were established in the present sample. Furthermore, many pupils arrive at PRUs with very little information regarding their learning needs and academic attainments (Centre

for Social Justice, 2011) – it is highly likely that these pupils will therefore continue to find that their underlying needs are not met. An important role for the EP could be to carry out full assessments of educational needs either upon PRU entry, or perhaps indeed when the pupil is deemed at risk of exclusion. Accurate identification of needs and effective differentiation of schoolwork is a key element of educational provision, (Hart, 1996). By setting work that is at an appropriate level, and motivating for the pupil, a positive climate of achievement can be created, where all learners are successful (Waldron & McLeskey, 2001).

The results of the present study also hold implications for the appropriateness of the PRU setting and contribute to the debate regarding the ethics of school exclusion. The Centre for Social Justice (2011) found that many PRUs are at the mercy of mainstream schools, with PRU head teachers viewing their setting as a “dumping ground” (Centre for Social Justice, 2011: p.180) for unwanted pupils. Although they are intended as short-stay centres, many pupils attend PRUs on long-term placements (Centre for Social Justice, 2011). The Centre for Social Justice found that some PRUs lack the resources and skills to support these pupils, and thus their needs remain unmet. Although PRU resources and staff capacity were not assessed in the present study, the finding of high rates of DB being closely linked with DS and negative self-concept confirms that PRU attendees are likely to have complex needs, and as such will present a challenge to staff. Individuals with low self-concept have been shown to seek acceptance in social groups, particularly in adolescence – a time when the importance of peer relationships and peer learning is heightened (Sebastian *et al.*, 2008). This could suggest that a PRU may be an inappropriate environment. The individual with a negative view of self, who arrives at a PRU populated by highly disruptive peers, may be susceptible to falling in line with the social norm (i.e. DB, school disengagement), thus maintaining their DB. Furthermore, as has been shown in the present study, a disruptive individual with negative

self-concept is at increased risk for DS: perhaps the very experience of exclusion may further increase the risk for depressive experiences. Timmermans *et al.* (2010) found that stressful life events are another mediating factor in the link between DB and DS: it could be argued that being excluded from school is a stressful life event in itself, which would therefore be particularly depressogenic in disruptive pupils who already have a negative view of self. Furthermore, it has been suggested that school exclusion is an example of social exclusion (MacRae *et al.*, 2003), which in-turn has been shown to predict depressive symptomatology (Boulard *et al.*, 2012), thus further highlighting the notion that exclusion could increase risk for DS.

### **Future directions**

The findings of this thesis provide a platform on which future research can be based. Firstly, more research should be carried out to examine other factors that may mediate the link between DB and DS in young people who have been excluded from school (or are at risk of exclusion): i.e. what else explains the mechanism by which DB is linked to DS? As referred to above, factors such as socio-economic status, parental psychopathology, peer relationships, and family relationships could be examined. In the case of school exclusion and PRUs, the impact of the experience of exclusion could be examined, where DS pre- and post-exclusion are measured. Obtaining parental and teacher reports of DB would increase the robustness of any findings. Furthermore, a qualitative examination of pupils' experiences of school exclusion may enlighten our understanding of its depressogenic properties.

The negative results and methodological limitations of the academic performance analysis suggests a clear opportunity to repeat the study. As mentioned previously, to examine

whether the results were indeed a true reflection of the link between psychopathology and academic performance, the study should be repeated, but with a larger sample size, and using an alternative measure of academic attainment. A study could be carried out where participants complete a number of subtests of a standardized measure of performance, such as the WIAT-II (Wechsler, 2005). However, this would require careful planning as each assessment would need to be carried out individually, thus vastly increasing the time-span of data collection. If this study yielded significant correlations between performance and psychopathology, then perhaps this would lay the basis for a further study investigating long-term trajectories. Here, it could be examined whether long-term academic difficulties lead to the development of DS via reduced self-concept, or perhaps whether the presence of long-term DB and DS has a negative impact on academic performance.

The debate regarding the appropriateness of PRU provision could be further contributed to by examining the course of mental health difficulties during PRU attendance. The notion that DB could be maintained within the PRU environment could be tested by taking measures of DB, DS and self-concept at various intervals during their PRU attendance (for example, at entry, mid-point, and exit). Any changes in scores could give valuable information regarding the therapeutic effectiveness of PRU provision.

An important study to be carried out would be to examine the effectiveness of psychological intervention for depression in disruptive pupils who attend PRUs. As mentioned previously, the likelihood of additional mental health difficulties, such as depression, in young people in PRUs suggests that therapeutic intervention is paramount. This intervention could be in the form of whole-school mental health promotion and skills training, or CBT-focused group and one-to-one work. However, research is needed in order to study the most effective and appropriate therapeutic method in this population – particularly as the

likelihood of DB may affect the smooth running of any group sessions. Although the intervention may focus on thought processes underlying DS, there may be additional benefits for DB (Wolff & Ollendick, 2006). However, the mixed evidence for the effectiveness of CBT for DB (Wolpert *et al.*, 2006) suggests that more research is needed to further understand the possibility of any additional benefits.

Another factor that could be examined is Expressed Emotion. Expressed Emotion (EE) refers to critical, hostile, or emotionally over-involved attitudes of caregivers toward a family member who experiences mental health difficulties (Kim & Miklowitz, 2004). Evidence shows that EE is involved in onset, maintenance and relapse of both depression and DB difficulties (Daley *et al.*, 2005; Kim & Miklowitz, 2004). Most research into EE focuses on the parent-child relationship; however, some researchers have studied EE in other settings. For example, Tattan and Tarrier (2000) found that almost one-third of staff in adult mental health institutions displayed high-EE towards patients with psychosis; this high level of EE seemed to adversely affect the quality of care and outcomes for the patients. EE has received scant research attention in education, despite evidence to suggest that the relationship between teacher and pupil has a strong influence over academic, social, emotional and behavioural outcomes (Daley *et al.*, 2005). One study, carried out by Daley *et al.* (2005), found that high levels of EE in teachers were correlated with the presence of DB. Daley *et al.* suggested that increased teacher EE could be a response to DB, or possibly could be influencing the pupils' behaviour. Perhaps "high levels of criticism and a lack of warmth may reduce a child's motivation to behave well in the classroom, and may provoke disruptive and hard-to-manage behaviour" (Daley *et al.*, 2005: p.32). If teachers of disruptive pupils exhibit high EE, then this could have a negative impact on both DB and additional DS. It would be of great interest to carry out a study of parent and teacher EE towards pupils who have been excluded or are at

risk of exclusion – perhaps teacher EE could be compared between mainstream and PRU settings. The findings of such a study may have important implications for the practice of both teachers and EPs. Evidence suggests that psychoeducation and the development of communication skills and problem solving skills can reduce levels of EE in family members of individuals with mental health difficulties (Kim & Miklowitz, 2004); perhaps these techniques could be applied in an education setting with school staff. Work of this nature could be as valuable as (if not more valuable than) direct therapeutic work with pupils; the close contact between EPs and educational settings suggest EPs could be ideally positioned to carry out such work.

### **General Conclusion**

In recent years, the call for an increase in the understanding of the needs of the PRU population has been gathering apace (Centre for Social Justice, 2011; Mental Health Foundation, 2002; National Children's Bureau, 2011). The results of this thesis suggest that young people who attend PRUs are likely to be experiencing complex mental health difficulties. Those who report high levels of DB seem to be at risk of DS, and vice-versa. The results suggest that there is a mutual relationship between DS and DB, in part explained by the presence of a negative self-concept. The findings have important implications for the practice of education professionals, including the need for increased awareness of the possibility of DS in highly disruptive pupils who have been excluded from school.

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# Appendices



**Appendix 1:** Staff feedback sheet

## The mental health of young people in PRUs: the relationship between disruptive behaviour and depressive symptoms

James Birchwood, Trainee Educational Psychologist, University of Birmingham

### Why was the research carried out?

A vast increase in our understanding of the mental health needs of PRU attendees is required. One area of research to explore is the link between disruptive behaviour (DB) and depressive symptoms (DS). Evidence suggests these are two closely linked dimensions. Most pupils are transferred to PRUs because of persistent DB; it could be inferred from the literature that these pupils are at increased risk for the expression of DS. As such, the relationship between DB and DS was explored in a sample of young people who attend PRUs.

### How was it done?

46 pupils completed a questionnaire battery assessing DB and DS, in addition to anxiety, self-concept, and school motivation. I also gained a sub-sample of pupils' most recent national curriculum assessment levels. The pupils were aged between 11 and 15. The assessments were carried out in groups, and took 10-20 minutes to complete.

### What were the findings?

There was a positive correlation between DB and DS – i.e. the more disruptive pupils were likely to report increased DS. There was a weaker association between DB and anxiety. In addition, the presence of negative self-concept greatly increased the chances that disruptive pupils would report DS. This association is represented graphically in Figures 1 and 2.

34% of the participants had 'above-average' levels of DS. In a mainstream sample of 400 pupils (Birchwood, 2010), I found that 20% had 'above average' DS.

Surprisingly, school motivation and NC levels were not correlated with any of the mental health variables – this is contrary to the findings in the literature. As a whole, the pupils were 3-3.5 years behind their expected NC levels.

### What do the findings mean?

Young people excluded from school are at risk for mental health difficulties, particularly DS. More disruptive pupils are likely to have a negative self-concept; the combination of DB and negative self-concept increased the chances of DS. The findings have implications for the practice of staff and other professionals who work with young people who have been excluded (and indeed those at risk of exclusion).

### Practical implications

- Increase awareness of possibility of DS
- Challenge dominant notion of 'bad behaviour'
- Careful assessment of need upon PRU entry?
- Information sharing between mainstream and PRU is vital
- Mental health support/intervention for PRUs and their pupils

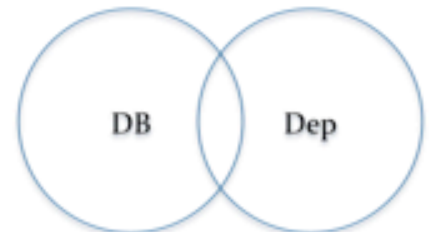


Figure 1: link between DB and DS

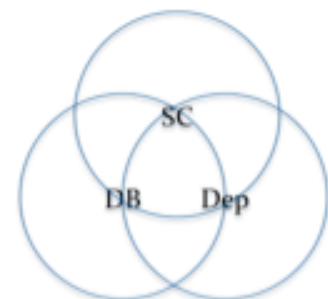


Figure 2: the presence of negative self-concept (SC) greatly increases the association between DB and DS

### Contact

J\*\*\*\*\*@\*\*\*\*\*

\*\*\*\*\* \*\*\*\*\*

**Appendix 2:** Pupil feedback sheet



## **The mental health of young people in PRUs**

James Birchwood, Trainee Educational Psychologist, University of Birmingham

You recently  
took part in a  
research study  
- thank you!



I investigated  
whether behaviour  
problems are  
linked to how you  
think and feel



I found that pupils who  
had more problems with  
behaviour had more  
negative thoughts  
about themselves



This means that  
when pupils have  
problems with their  
behaviour, we need  
to find out how they  
are feeling inside



For more information, please contact

JXXXX@XXXXXX

XXXX XXX XXX

**Appendix 3:** Parental study information letter, opt-out consent form, and study information pamphlet

*3(a) Parental study information letter and opt-out consent form*



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**PARENT INFORMATION SHEET**

**Study Title: The self-reported mental health and motivation of pupils who attend pupil referral units.**

We are seeking your permission for your child to take part in a research study. Before you decide whether or not you will grant permission for your child to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear, or if you would like more information.

**The purpose of the study**

The purpose of this study is to investigate the mental health and motivation of adolescent pupils who attend pupil referral units in \*\*\*\*. I am interested in the relationship between anxiety, depression, disruptive behaviour, conduct problems and school motivation. Anxiety and depression are known as 'internalising' difficulties, and disruptive behaviour and conduct problems are known as 'externalising' difficulties.

**Why has my child been selected?**

We are asking the parents of **every pupil** who attend a number of Key Stage 3 and 4 PRUs in \*\*\*\* for permission for their child to be invited to participate in the research.

**Does my child have to take part?**

No - involvement in this study is voluntary. However, if you decide to allow your child to take part, they will still be free to withdraw up to one month after the study date without giving a reason (for example, if the study date is on 10<sup>th</sup> July 2012, your child will have up until 10<sup>th</sup> August 2012 to withdraw). Your child can withdraw from the study by contacting me via one of the email addresses below, or by informing their

teacher at the PRU. A decision to withdraw, or a decision not to take part, will not affect you or your child in any way.

**What will happen to my child if he/she takes part?**

If you allow your child to participate, then they will also be invited to take part. On a particular day at the PRU, your child and several others will come to a room in the PRU to complete the study. A PRU staff member and I (James Birchwood) will be present in the room. The pupils will be given information about the research and will be asked to sign a consent form. Once they have signed the consent form, they will be asked to complete a questionnaire.

The questionnaire will ask them about their thoughts, feelings, and behaviours. The answers to the questions will tell us about the participants' levels of anxiety, depression, disruptive behavior, and motivation.

After completing the questionnaire, your child will be free to return to the classroom.

**What are the possible benefits of your child taking part?**

This study will help us understand the motivation and mental health needs of pupils who attend PRUs. By looking at this, we can help the PRUs to provide appropriate support for their pupils. We hope that the results of the study help us support PRU pupils to be happy, and motivated to succeed at school.

**What are the possible risks of taking part?**

There are no risks to your child taking part. However, your child will not have to answer anything they do not feel comfortable with, and they can stop at any time.

**What will happen when the research study stops?**

The results will be written up into a research report, and will be presented to the staff at the PRUs. We will send you and your child a summary of the results of the study when they are ready.

**Will your child's participation in this study be kept confidential?**

Our procedures for handling, processing, storing, and destroying your data will be compliant with the Data Protection Act 1998. All information that is collected about your child during the course of the research will be kept strictly confidential. Your child will not be personally identifiable in the write-up of the study. The data will be kept for 10 years after the research is completed.

**What will happen to the results of the research study?**

The results of the study will be written up as part of James Birchwood's Doctorate in Applied Educational and Child Psychology. It is also hoped that the results will be published in journal articles and presented at conferences. However, your child's anonymity will be preserved at all times.

**Who is organising the research?**

The research is organised by the University of Birmingham and \*\*\*\* Inclusion Support, and is being undertaken as part of James Birchwood's Doctorate in Applied Educational and Child Psychology.

**What if there is a problem?**

If there is a problem, the researcher can be contacted during 9-5pm Mon-Fri, however, we do not expect that any part of this study will cause harm to anyone taking part in it.

**Who has reviewed the study?**

This study has been reviewed by the Humanities and Social Sciences Ethical Review Committee, University of Birmingham.

**What do I do next?**

If you agree to allow your child to participate in the research, do nothing. If you **do not** wish for your child to participate, please complete the attached 'opt-out' consent form and return to James Birchwood in the **FreePost** envelope provided.

**Contact for further information**

Please contact the following for further information:

\*\*\*\*

**Thank you for reading this.**

---

**Research opt-out consent form - The self-reported mental health and motivation of pupils who attend pupil referral units.**

\* Please only return this slip if you are **not** happy for your child to participate in the research. If you are happy for them to participate, do nothing.

Student's name \_\_\_\_\_

PRU \_\_\_\_\_

Parent's name \_\_\_\_\_

Signed \_\_\_\_\_

*3(b) Parental study information pamphlet*

**Why has my child been invited to take part in this study?**

We are asking the parents of all children who attend a number of PRUs in \*\*\*\* if their children can take part in the study

**What are the possible benefits of taking part in this study?**

This study will help us understand the motivation and mental health needs of pupils who attend PRUs. By looking at this, we can help PRUs provide appropriate support for their pupils

**Is taking part confidential?**

**Yes.** All information will be stored in a secure location for 10 years after the research is completed. We will remove any personal details so that your child will not be recognised from it. Only the researcher will ever have access to this information.

**Does my child have to take part in this study?**

No. It is completely up to you and your child to decide whether they take part. If your child wishes to withdraw from the study he/she is perfectly entitled to do so. Pupils will have up to one month after the study date to notify me or the PRU that they wish to withdraw.



**What will happen if I agree for my child to take part?**

On a particular day at the PRU, we will ask your child and other pupils to come to a room where they will be given information about the study. Here, the researcher and a PRU staff member will be present. Pupils will be asked to complete a consent form.

*If your child agrees to take part, then...*

Your child will be asked to complete a questionnaire which will ask about his/her thoughts, feelings, and behaviours. Once he/she has finished, they will be allowed to return to the classroom. If your child has difficulty reading, we can help your child to read the questions.

**What are the possible risks of taking part in this study?**

There are no known risks of taking part in this study. However, your child does not have to answer anything that they do not feel comfortable with, and they can stop at any time.

**What will happen after the study?**

The results will be written up into a research report, and will be presented to the staff at the PRUs. We will send you and your child a summary of the results of the study when they are ready.



If there is a problem arising from the study, the researcher can be contacted during 9-5pm Mon-Fri, however, we do not expect that any part of this study will cause harm to anyone taking part in it.

**Who has reviewed the study?**

The study has been reviewed and approved by the Humanities and Social Sciences Ethical Review Committee University of Birmingham



### *Who is running the study?*

This research is being carried out by James Birchwood, Trainee Educational Psychologist (School of Education, University of Birmingham). His research supervisor is Huw Williams (School of Education, University of Birmingham). James is also supervised by \*\*\* \*\*\*, Educational Psychologist (\*\*\*\*\*).

*Are you happy for your child to take part in this study?*

*Would you like more information before you decide?*

### **James Birchwood**

Trainee Educational Psychologist  
School of Education  
University of Birmingham  
Edgbaston  
B15 2TT  
Email:\*\*\*\*@bham.ac.uk  
Or  
\*\*\*\*\*@\*\*\*\*\*

**Thank you!**

**We would like your child to participate in a research study**

**The self-reported mental health and motivation of pupils who attend pupil referral units.**



This leaflet tells you more about the study and how you can take part in it. Please read the leaflet carefully and discuss it with others if you wish.

**Parent  
information  
leaflet**



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**Appendix 4:** Pupil information letter and consent forms

*4(a) Information letter and consent form completed at data collection session*



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**Research project: The mental health and motivation of pupils who attend pupil referral units.**

**Information Sheet**



- My name is James Birchwood
- I am in training to become an Educational Psychologist.
- Educational Psychologists are interested in how children and young people think, feel and behave. They like to help children and young people do well at school.
- I am conducting a research project.
- I want to find out about the mental health and motivation of pupils who attend pupil referral units (PRUs).
- The research will help me, your PRU and other schools to understand the mental health and motivation of pupils who attend PRUs. This is important because it will help us to support you to be happy and do your best at school.
- I would like you to complete a questionnaire. This will take between 10 and 20 minutes. **10:00**  **20:00**
- The project will be done in a room at your PRU.

- The questionnaire will ask you about your thoughts, feelings, and behaviours.
- I hope you can help with the research.
- Your work will not be shared with any other pupils.
- You can stop doing the work at any time.
- If you decide that you do not want to be involved in the research any more, you will have one month from the day you filled in the questionnaire to inform me. You can do this by sending me an email, making a telephone call to me, or by telling your class teacher (who will tell me for you). My contact details are below.
- If you tell me something that could harm you or someone else, I will need to tell someone to get some help.
- If you would like to take part in the research, please complete the consent form.
- You can ask me about the project at any time. My contact details are at the bottom of this page.
- You can also ask your teachers about the project.
- I am a research student and I have two supervisors. You can talk to my supervisors at any time. One of my supervisors is called \*\*\* \*\*\*\* and is an Educational Psychologist. She can be contacted on: \*\*\*\*\*.
- My other supervisor is called Huw Williams. He is also an Educational Psychologist. He can be contacted at [\\*\\*\\*\\*\\*](#)
- I can be contacted on \*\*\*\*\* or at \*\*\*\*\*
- If you are worried about your thoughts, feelings, and behaviours, please speak to your teacher or your parents/guardians. Here are some other things you could do:

- Ring ChildLine on 0800 11 11
- Contact the Samaritans on 08457 90 90 90 or at [jo@samaritans.org](mailto:jo@samaritans.org)
- Visit [www.youthspace.me](http://www.youthspace.me)

**Thank You**

**Consent Form**

My Name is: \_\_\_\_\_

My date of birth is: \_\_\_\_\_

Please circle your answer to each question

- |  |     |    |
|--|-----|----|
| 1. I would like to be in the research project  | Yes | No |
| 2. I understand I can say I do <b>not</b> want to be part of the research at any time  | Yes | No |
| 3. I am happy to complete the questionnaire  | Yes | No |
| 4. I understand my answers may be used in a report but my name <b>will not</b> be used                                       | Yes | No |
| 5. If I have a question, I know who to ask   | Yes | No |
| 6. I understand that if I report something that could harm myself or others, you will need to tell someone to get some help. | Yes | No |

Signed: \_\_\_\_\_

*4(b) Additional pupil information letter and consent form*



THE UNIVERSITY  
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**Research project: The mental health and motivation of pupils who attend pupil referral units.**



**Information Sheet**

- My name is James Birchwood
- I am in training to become an Educational Psychologist.
- Educational Psychologists are interested in how children and young people think, feel and behave. They like to help children and young people do well at school.
- You recently took part in a research project that looked at the mental health and motivation of pupils who attend pupil referral units (PRUs).
- I am also interested in looking at how mental health and motivation are linked to academic performance (or, how well pupils do in their school subjects). This is important because it will help us to support you to be happy and do your best at school.
- I would like your PRU to give me the results of their most recent assessments of your progress in English, maths, and science.
- This information will not be shared with any other pupils.

- Once I get this information, I will take your name off it.
- If you are happy for me to see the results of your assessments, please complete the consent form.
- You can ask me or your teachers about the project. My contact details are at the bottom of this page.
- I am a research student and I have two supervisors. You can talk to my supervisors at any time. One of my supervisors is called Sarah King and is an Educational Psychologist. She can be contacted on: \*\*\*\*\*
- My other supervisor is called Huw Williams. He is also an Educational Psychologist. He can be contacted at [\\*\\*\\*\\*\\*](mailto:*****)
- I can be contacted on \*\*\*\*\*
- If you are worried about your thoughts, feelings, and behaviours, please speak to your teacher or your parents/guardians. Here are some other things you could do:
  - Ring ChildLine on 0800 11 11
  - Contact the Samaritans on 08457 90 90 90 or at [jo@samaritans.org](mailto:jo@samaritans.org)
  - Visit [www.youthspace.me](http://www.youthspace.me)

**Thank You**

**Consent Form**

My Name is: \_\_\_\_\_

My PRU is called: \_\_\_\_\_

My date of birth is: \_\_\_\_\_

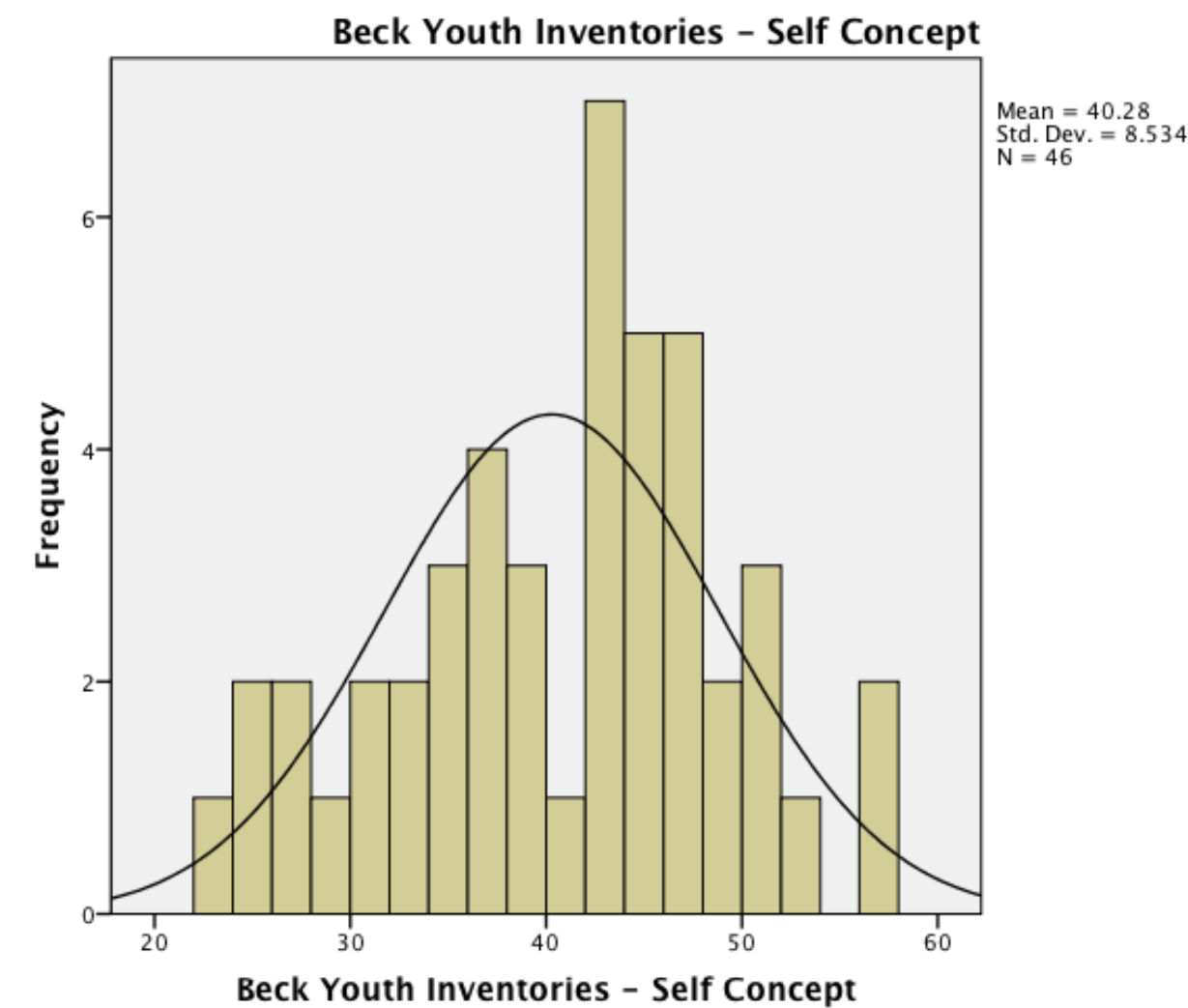
Please circle your answers to the following questions:

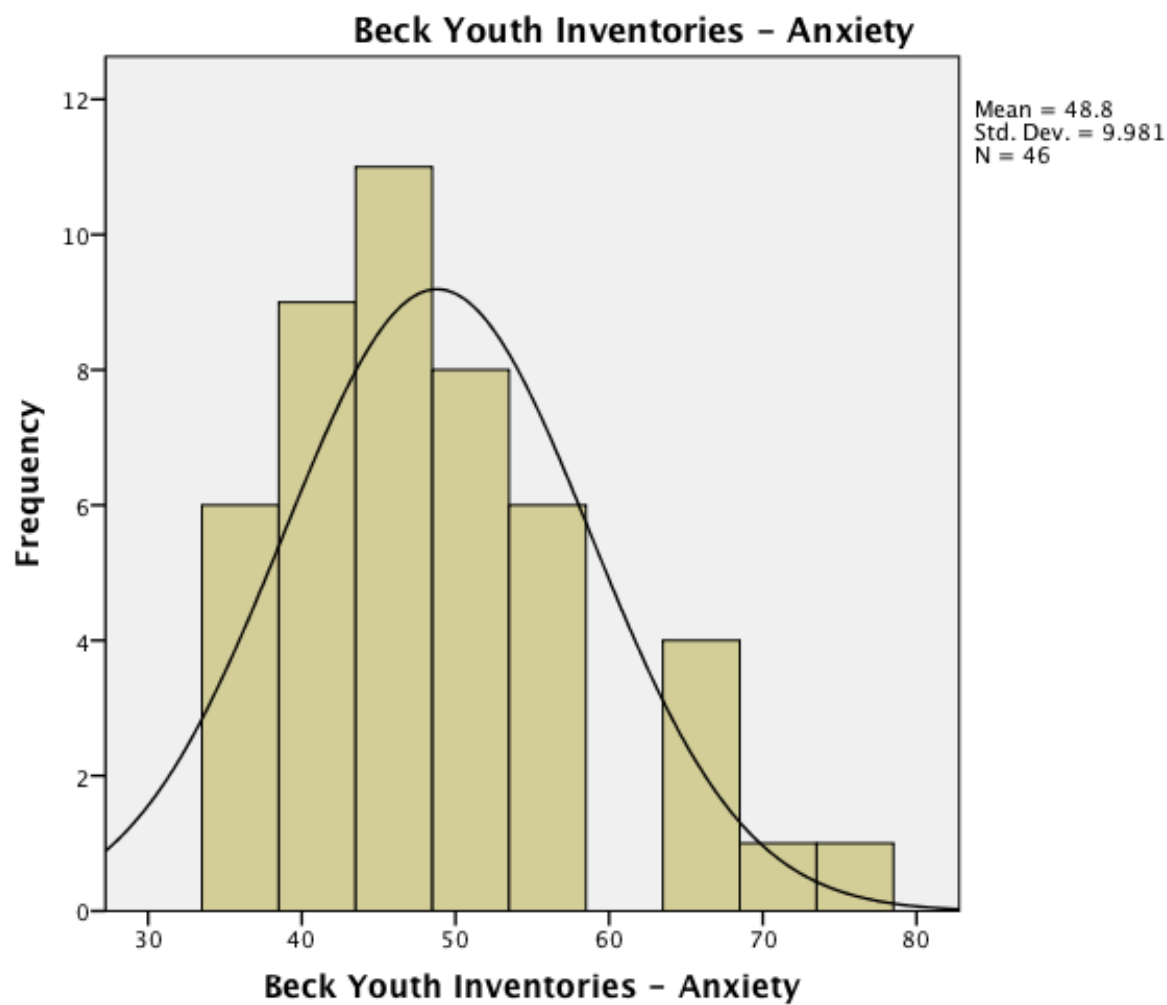
- |  |            |           |
|--|------------|-----------|
| <b>1. I am happy for my teachers to release my academic grades to James Birchwood</b>  | <b>Yes</b> | <b>No</b> |
| <b>2. I understand my answers may be used in a report but my name will not be used</b> | <b>Yes</b> | <b>No</b> |
| <b>3. If I have a question, I know who to ask</b>                                      | <b>Yes</b> | <b>No</b> |

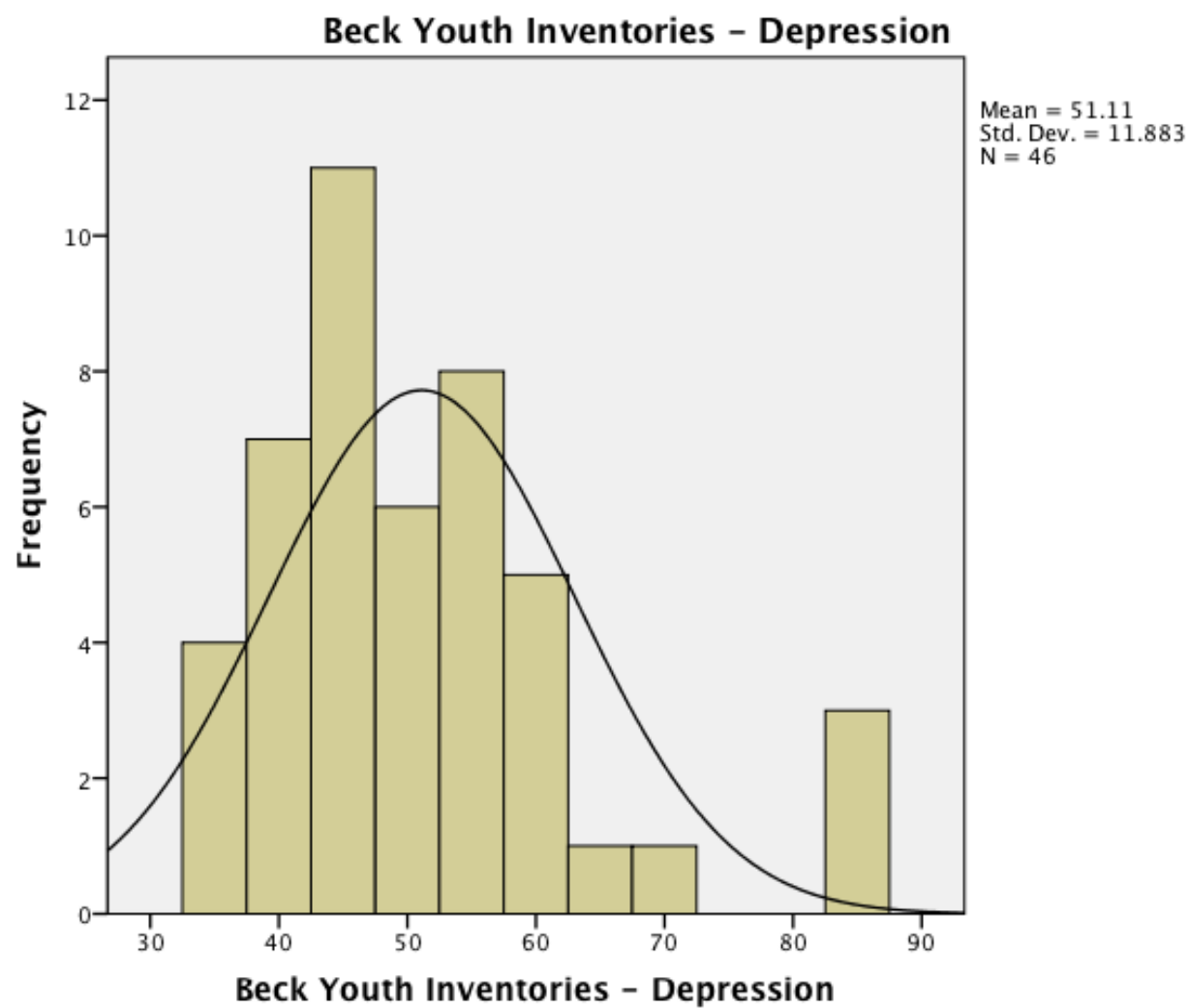
Signed: \_\_\_\_\_

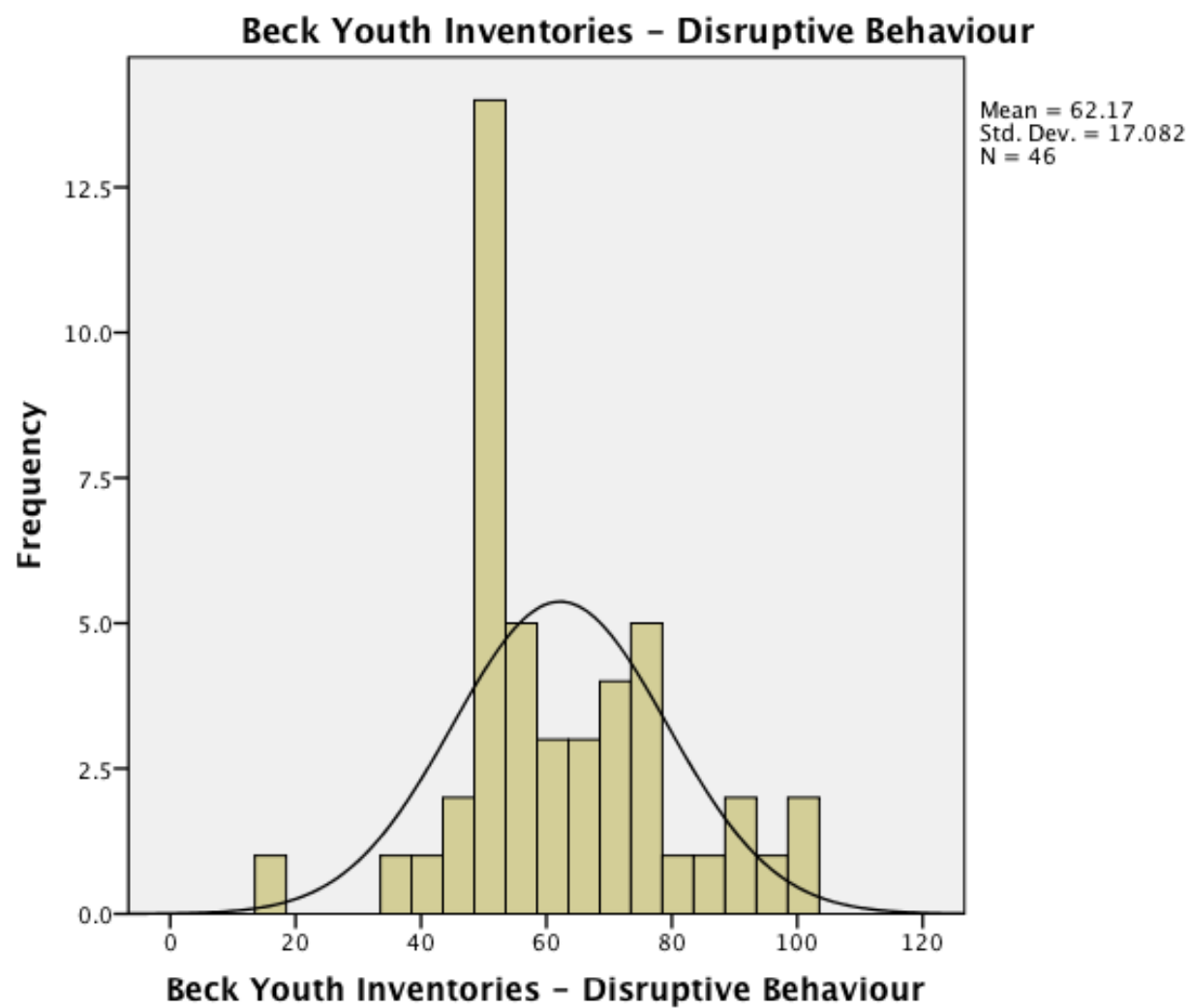


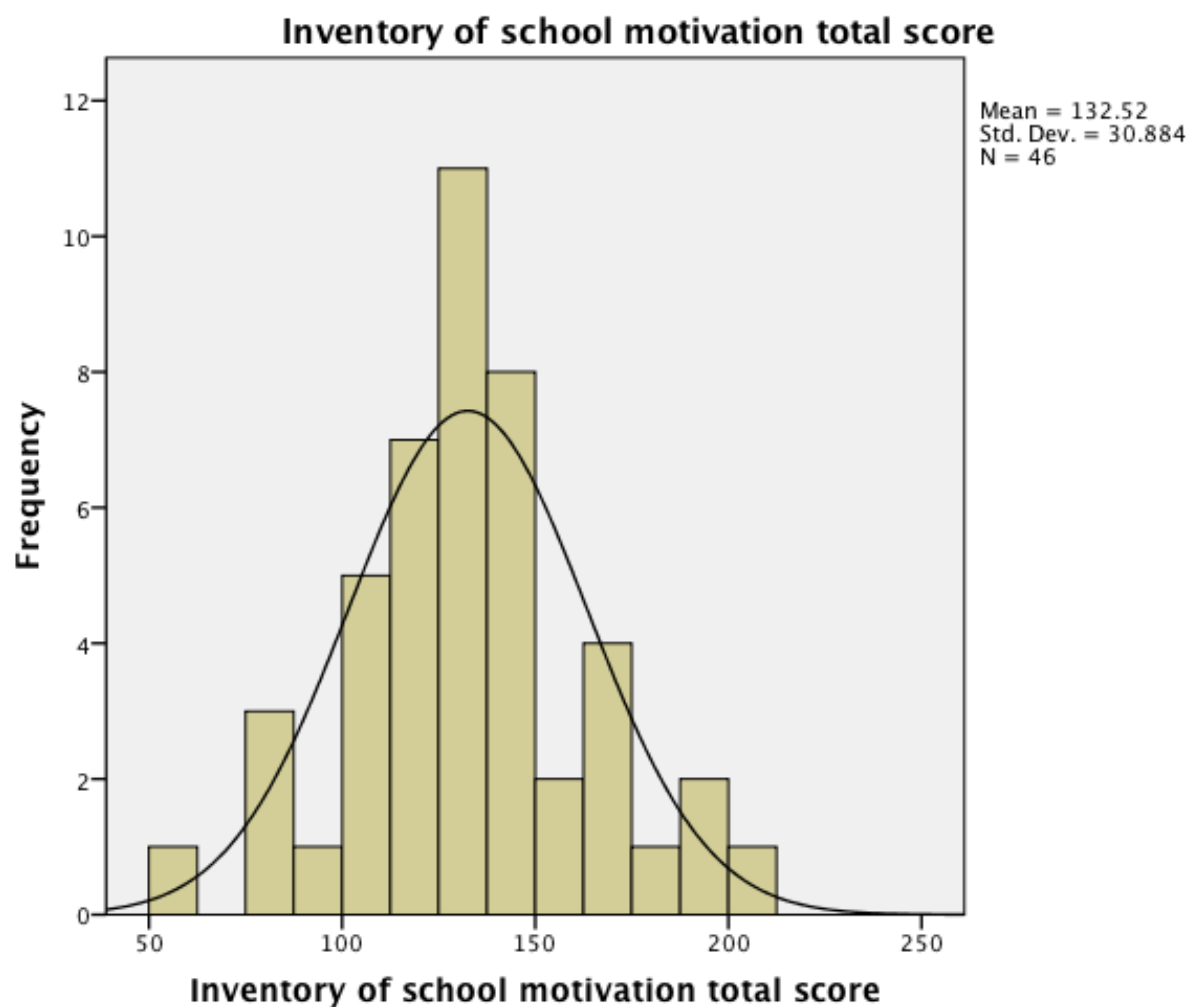
**Appendix 5:** Frequency histograms of all study variables

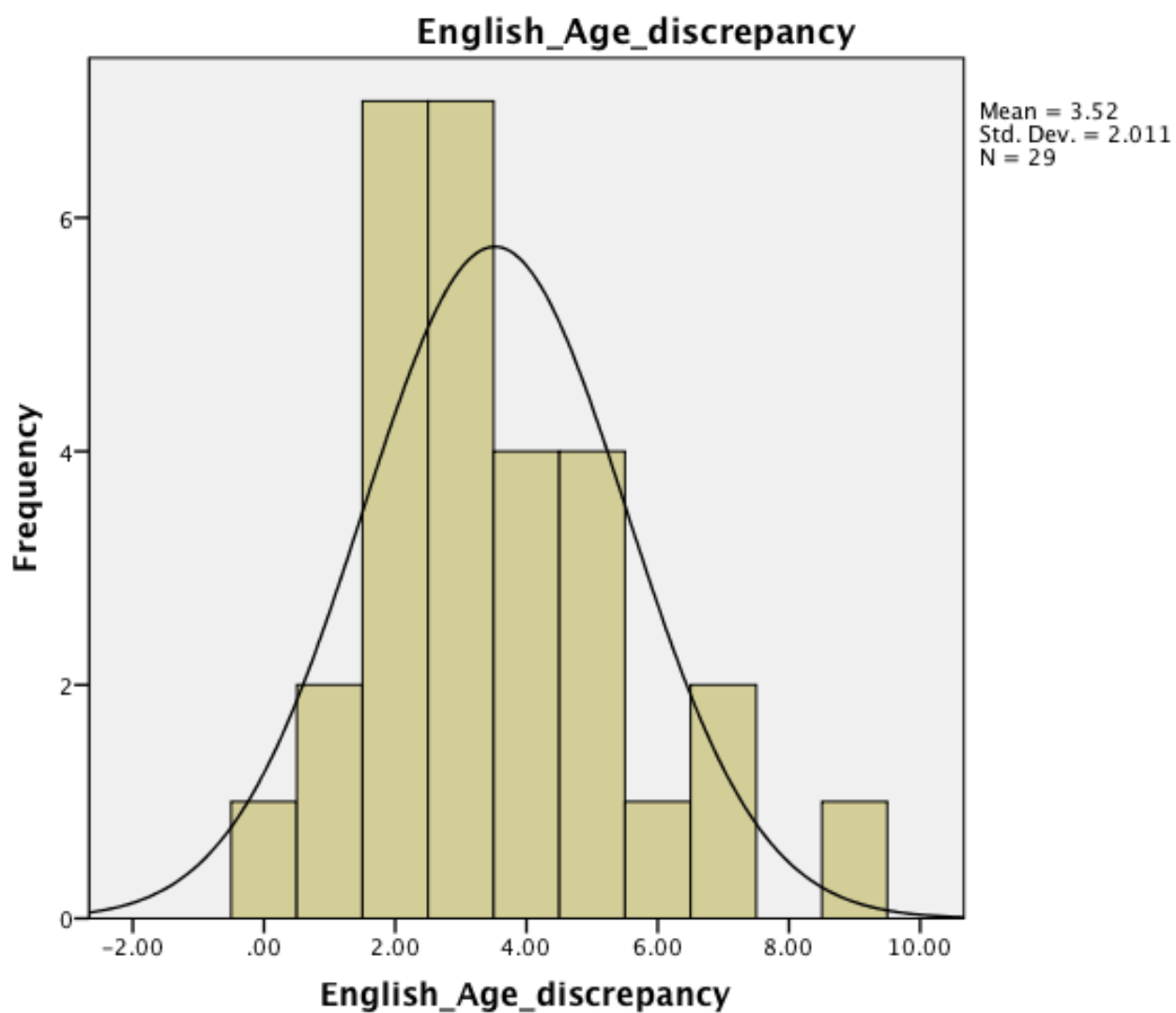


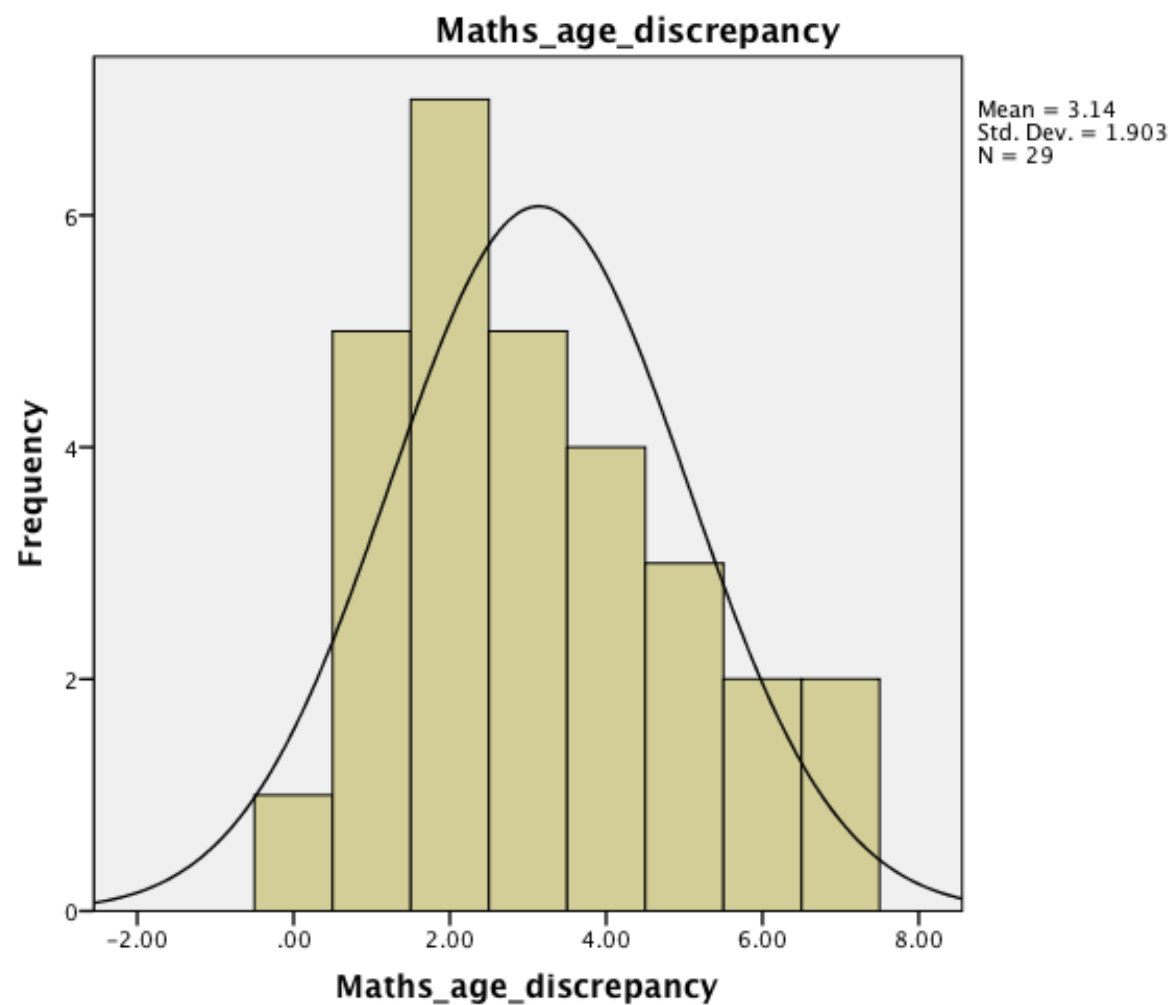






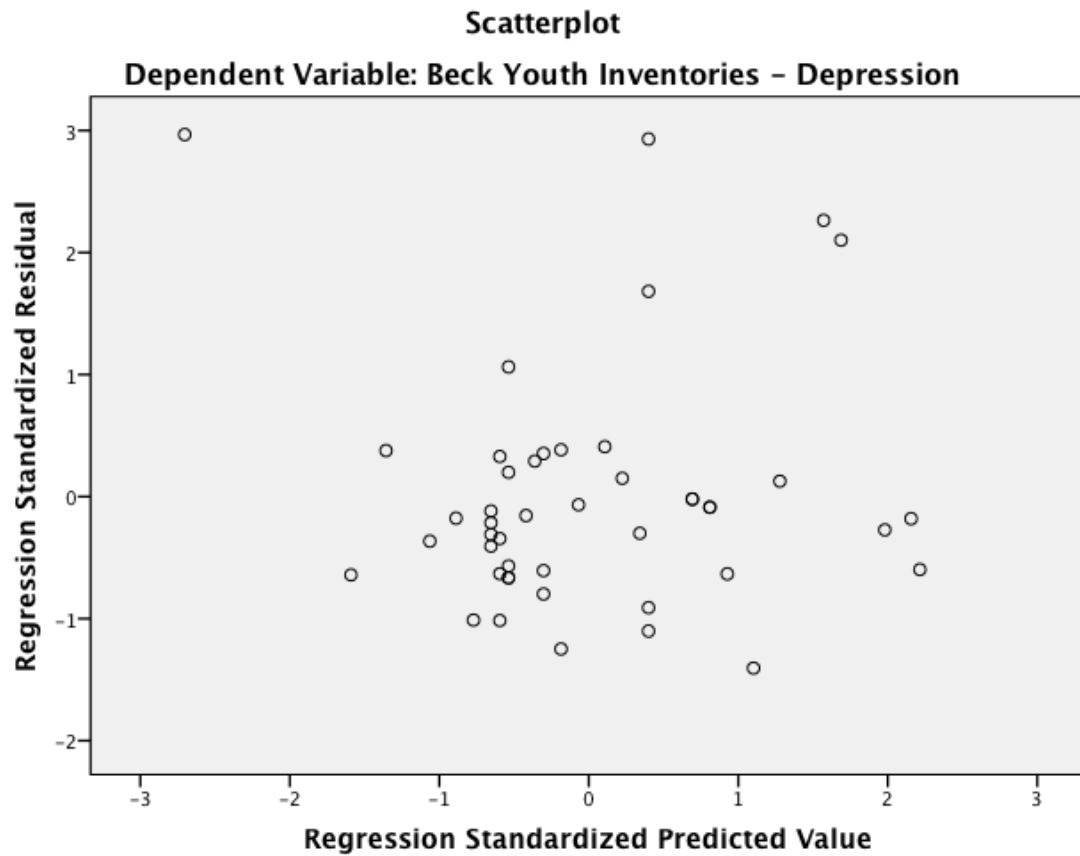






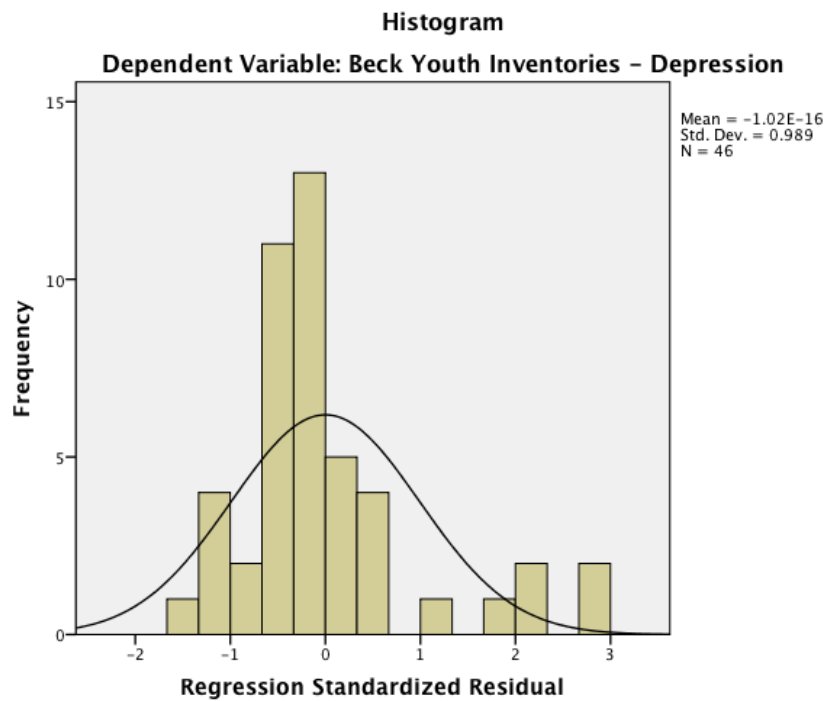
**Appendix 6: Regression assumption charts for model *i*.**

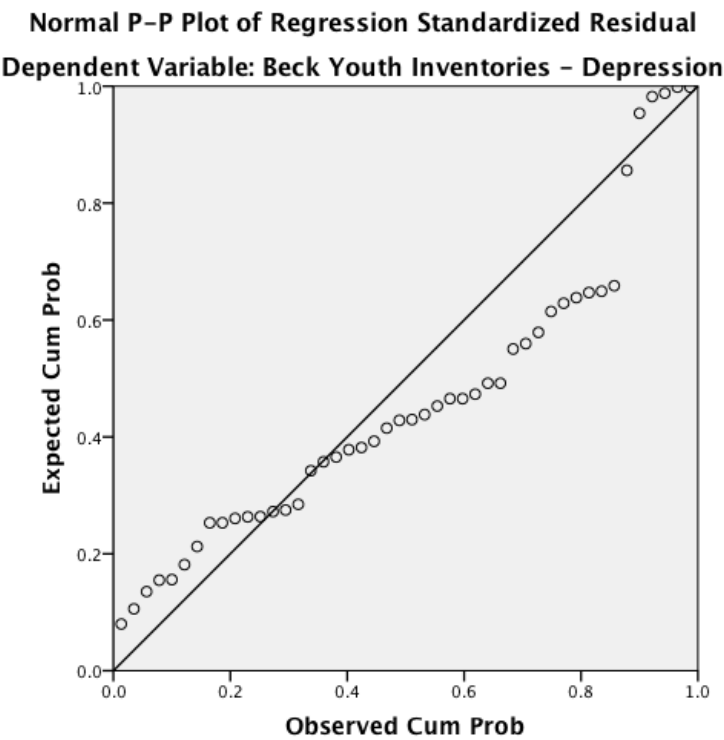
6 (a) *Assumptions of linearity and homoscedasticity: Scatter plot of the residuals against the predicted values*





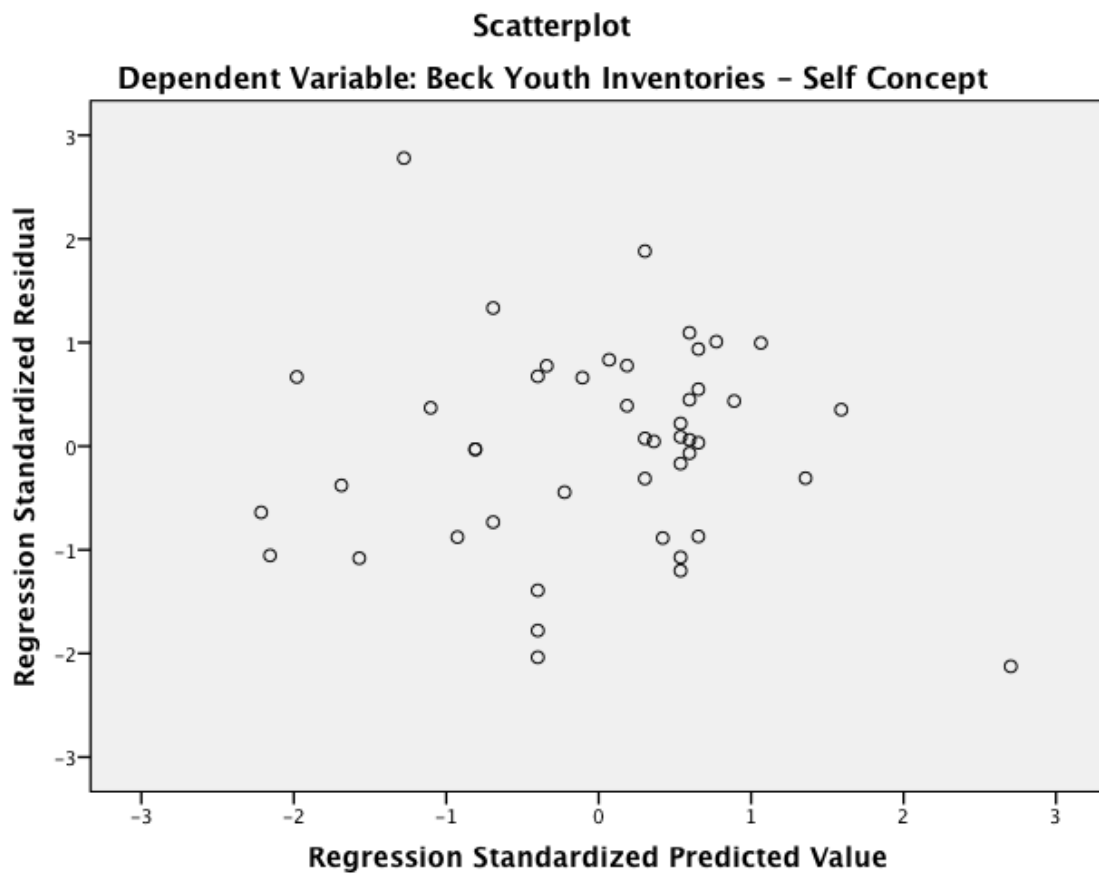
6 (b) Assumption of normally distributed errors: Histograms and normal P-P plots of the residuals.



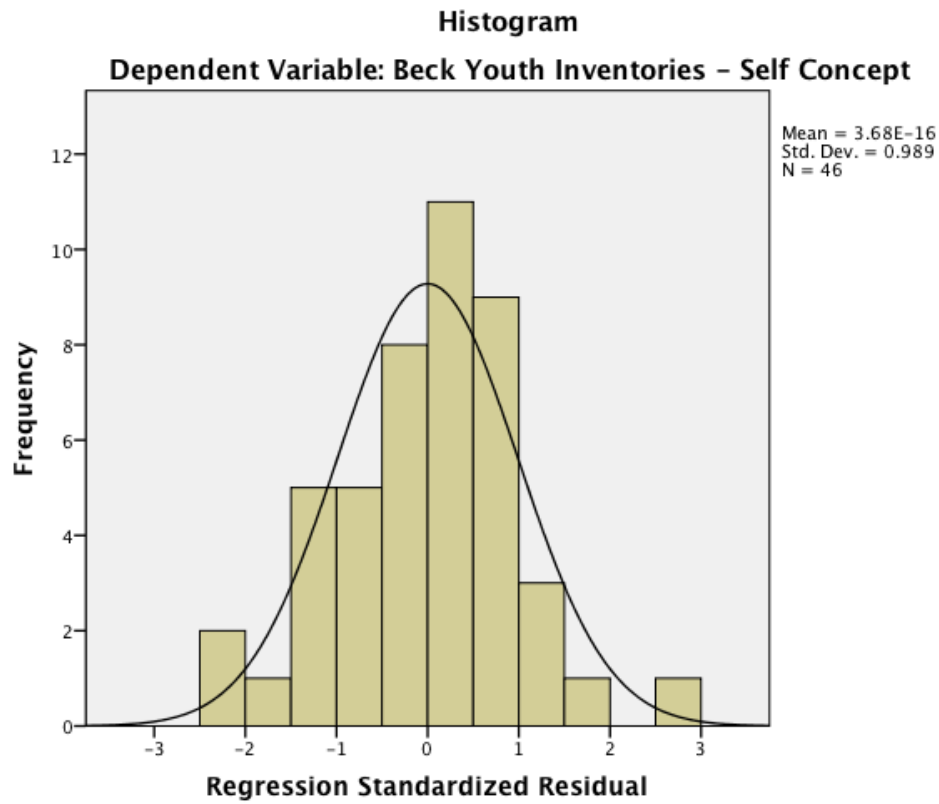


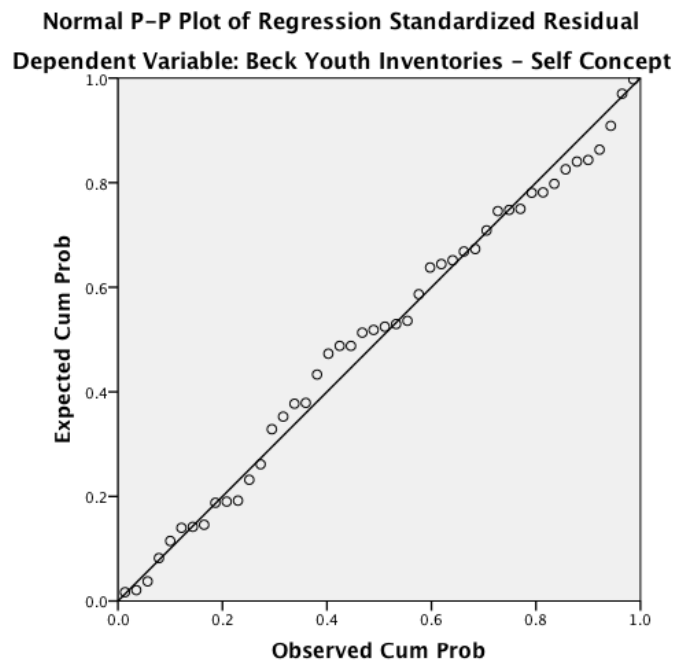
**Appendix 7: Regression assumption charts for model ii.**

7 (a) Assumptions of linearity and homoscedasticity: Scatter plot of the residuals against the predicted values



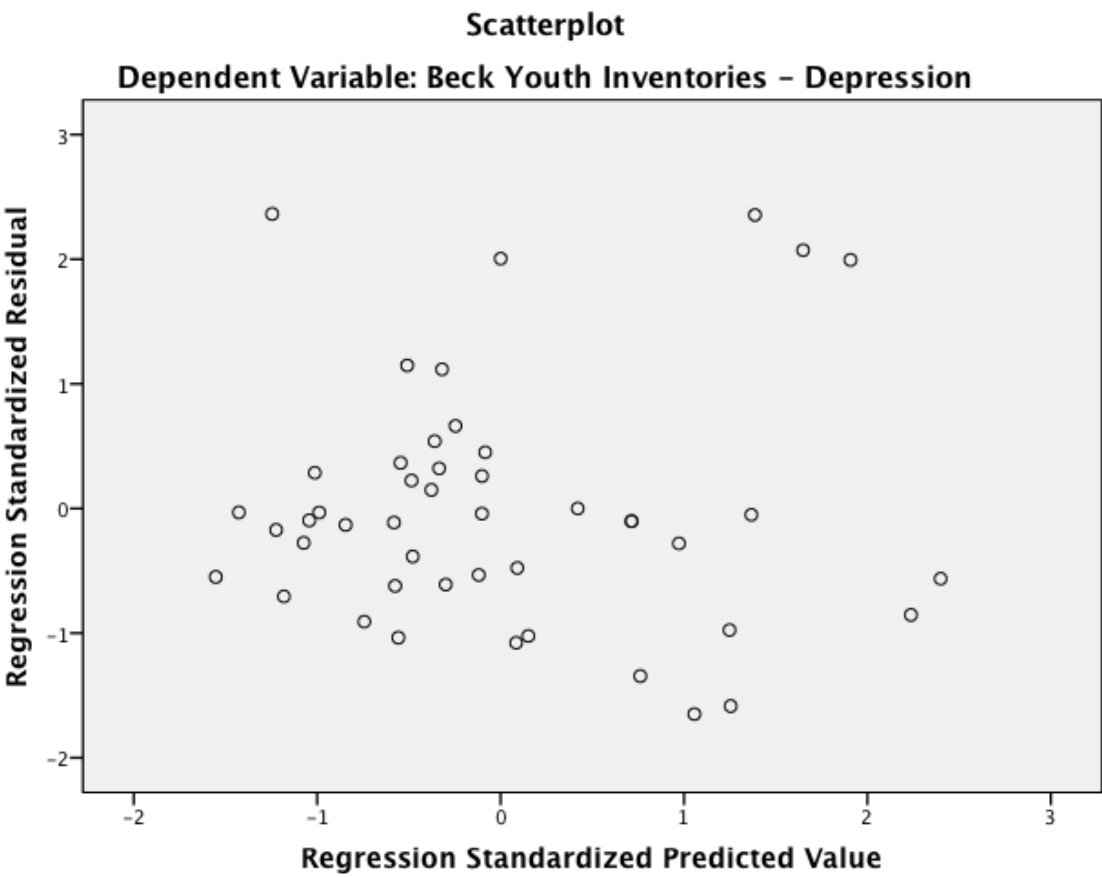
7 (b) Assumption of normally distributed errors: Histograms and normal P-P plots of the residuals.





**Appendix 8: Regression assumption charts for model *iii*.**

*8 (a) Assumptions of linearity and homoscedasticity: Scatter plot of the residuals against the predicted values*



8 (b) Assumption of normally distributed errors: Histograms and normal P-P plots of the residuals.

